# SUSTAINABILITY: YOUTH RESEARCHERS IN ACTION 2025

SUSTAINABLE DEVELOPMENT GOALS

# SUSTAINABILITY: YOUTH RESEARCHERS IN ACTION

**VOLUME 1 (2025)**

This volume presents outstanding student work produced during the 2025 Youth Sustainability Researcher Action Scheme, held from February to May 2025. The Scheme aims to develop high school students' research skills, focusing on the Environmental, Social, and Governance (ESG) framework. By studying global issues, the Scheme enhances students' international perspectives and social responsibility, preparing them to drive social progress. Through systematic training, students will learn to write academic papers and apply social research methods. They will collect and analyze social data, conduct literature reviews, and use quantitative and qualitative research methods. The Scheme balances theory and practice, equipping students with essential skills for future academic and professional challenges.

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# ABOUT THE ORGANIZERS

The Youth Sustainability Researcher Action Scheme is jointly organized by Shanghai-Hong Kong Development Institute of The Chinese University of Hong Kong, the International Chamber of Sustainable Development, and the Hong Kong Direct Subsidy Scheme School Council, and is administered by EduTion Network.


**SHANGHAI-HONG KONG DEVELOPMENT INSTITUTE**

The Shanghai-Hong Kong Development Institute (SHKDI) was established by Fudan University and the Chinese University of Hong Kong in 2001 to capitalize on the strengths of the two universities in economics, sociology, politics and humanities. SHKDI is the first joint research unit between key universities in mainland China and Hong Kong after the handover of Hong Kong, with its name inscribed by Mr. Wang Daohan, then president of the Association for Relations Across the Taiwan Straits and former mayor of Shanghai.


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The Direct Subsidy Scheme School Council (DSSSC) was established in 1991 to address the shifting educational landscape in response to evolving societal needs and demands. The concept of the DSSSC is to develop a robust school sector that allows schools a high degree of autonomy in curriculum design, staff management, financial management, and admission requirements, with the aim of offering students and parents a higher standard of educational services.


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國際可持續發展協進會

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Website: https://www.icsd-global.org


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# WHAT GLOBAL GREEN PRACTICES CAN BE ADOPTED AND APPLIED IN HONG KONG SECONDARY SCHOOLS?

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## INTRODUCTION

Nowadays, the concept of ESG — Environment, Social and Governance (United Nations Global Compact. (2004) p.1)[1] — has already been introduced to a great number of schools, ranging from primary schools to secondary schools to universities, and corporations. Yet, this review will focus on what global ESG green practices can be adopted and applied in Hong Kong secondary schools. The review consists of two parts. The first part gives an overview of green campuses and green initiatives in Hong Kong, which include both hard approaches and soft approaches, and a couple of international good green campus case studies. The second part discusses the challenges for Hong Kong secondary schools to carry out green campuses, according to interview results, and suggestions for betterment.

## LITERATURE REVIEW

**Overview of green campuses and policies in Hong Kong**
Green campus practices in Hong Kong can be categorized into soft and hard approaches.

For soft approaches, educators nurture students' sense of responsibility to sustainability and environmental protection. For instance, the Education Bureau (EDB) curriculum in different subjects ranging from primary to senior secondary has included related topics such as renewable energy resources, biodiversity, social responsibilities, business ethics, etc.. (The Government of the Hong Kong Special Administrative Region Press Releases, (2023))[2]

To enrich students' learning experiences, a range of student activities such as slogan and poster design competitions, online quiz competitions, and online courses are organised. The Environment and Ecology Bureau (EEB) and the Environmental Campaign Committee (ECC) have launched the GreenLink with funding support from the Environment and Conservation Fund. The programme provides schools with one-stop services to assist schools in arranging environmental education activities. (GreenLink (2025))[3]

The EDB also collaborated with the EEB, the Hong Kong Green Building Council, etc. to organise diversified professional development programs for teachers to assist in teaching the related concepts. Teaching resources included worksheets, educational multimedia resources available on the EDB website, etc.. The above reflects that teaching and students' learning are well supported.

For hard approaches, schools and universities incorporated sustainability into their campuses. For instance, at the Chinese University of Hong Kong, environmentally friendly campus designs are carried out, including the Yasumoto International Academic Park, which captures natural lighting, and roof gardens, ect. Both of which reduce the amount of daily electricity used. (The Chinese University of Hong Kong (2021))[4]

For secondary and primary schools, according to the 18th Hong Kong Green School Award report published by WWF-Hong Kong, many of them are equipped with resource-saving devices, greening areas, and recycling facilities such as the three-coloured recycling bins and Tetra Pak recycling bins (WWF-HK (2020), p.4)[5]. For instance, over 1000 primary and secondary schools are provided with 3-coloured waste separation bins for free through participating in the Waste Separation and Recycling Scheme in Schools. (The Government of the Hong Kong Special Administrative Region Press Releases (2024))[6]  Schools also widely adopt e-platforms for school operations to reduce paper usage such as eClass.

Apart from traditional green practices, some schools also introduce renewable energy resources, such as installing solar panels. 500 eligible schools joined Solar Harvest, a solar energy support scheme subsidizing the installation of solar photovoltaic (PV) systems. The 10-kilowatt solar energy generation systems in the school campus contributed to the energy consumption of not only the school but also the community. With

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the educational kits provided by the scheme, students' knowledge on renewable energy can be enhanced. ( Carbon Neutral @HK,&EMSD (2023-24))[7]

These examples show that some green technologies and environmentally conscious designs have already been implemented in campus life across Hong Kong, helping to raise students' awareness and encourage them to put ESG strategies into action.

### International case studies
Looking beyond Hong Kong, green campuses around the world have adopted innovative and wide-ranging ESG strategies, particularly with an emphasis on environmental sustainability. These international examples can be found across different educational levels—from primary to higher education institutions.

At the primary school level, Uaso Nyiro Primary School in Kenya stands out as one of the "greenest schools on Earth". The school has a water collector that aims to collect the rainwater to relieve the problem of water shortage and for farming uses in the region and, simultaneously, educate the people to think about using rainfall rather than digging a well in the ground, which leads to groundwater depletion. (Y-Jean Mun-Delsalle (2018))[8]

Another example is the Australian International School in Singapore. The school installed over a thousand rooftop solar panels on its roofs, generating 704 MWh of solar electricity which is then made available on the energy market. (Australian and New Zealand Association (2019))[9]

The Green School in Bali is also a brilliant example of demonstrating a green campus with the idea of ESG. The Green School's buildings are constructed from traditional and renewable materials, such as bamboo, grass, and mud. The school is also powered by renewable energy sources; besides, hydropower and solar power are designed around an organic permaculture system. For the education approach, the school educates students to reuse and upcycle, simultaneously, hold some outdoor learning experience for the students for example letting them clean the waste under the sea. (The Green School (2021))[10]

At the university level, several institutions have made substantial progress in developing green campuses.

The University of Toronto stands out as one of the greenest universities in the world due to the investment in renewable energy sources like solar panels and wind turbines on the campus, allowing them to lower its carbon footprint. Other than that, it has taken energy-saving measures like upgrading campus buildings with energy-efficient lighting, heating, and cooling systems. (The University of Toronto, (n.d.))[11]

The University of Nottingham is another great example. It has successfully reduced carbon emissions by nearly 40% through utilizing renewable energy, e.g. ground source heat pump, lake source (extracting heat from Jubilee campus lake) heat pump and biomass boilers to power the campus like using fish oil and wood pellets. Also, the university promotes recycling and waste reduction initiatives to divert waste from landfills. (Sustainability Team of University of Nottingham, (n.d.))[12]

UC Berkeley is also a model of a green campus. Similar to most of the green campuses, it installed solar panels at 5 locations on campus. It promotes eco-friendly transportation by bike lanes, racks, and providing discounted public transit passes so as to diminish the carbon emission. (UC Berkeley, (n.d.))[13] (UC Berkeley, (n.d.))[14]

In summary, global examples of green campuses highlight a trend of reducing non-renewable energy use and carbon emissions while also integrating sustainability principles into students' daily lives and learning environments.

### Challenges in Hong Kong
Despite the progress made in Hong Kong, there remain several challenges that hinder the further development of green campuses.

One major issue is the limited implementation of renewable energy solutions. HK schools obviously still heavily rely on the electricity supply instead of renewable energy. Some may claim that there are solar panels installed on the school rooftop, yet solar energy that is generated from them takes up solely a small portion of the energy supply for the school in total.

On top of that, lack of capital is another problem. Even though there are fundings provided by Solar Harvest, for example, schools have to pass assessments regarding the cost effectiveness of install-

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ing solar panels on the site, ability to maintain and operate the systems and other criteria, in order to be selected as one of the participants of the scheme. This is one of the reasons explaining limited implementation of renewable energy solutions.

There are also educational and pedagogical challenges. Research has shown that Hong Kong's education system tends to use a didactic approach, which may be less effective in promoting deep environmental understanding compared to inquiry-based or experiential learning models. For example, rather than learning the renewable energy resources used nowadays from the textbook, students can go on a field trip to a recycling company or complete a project exploring people's habits on waste management. Under these kinds of inquiry approaches, according to questionnaire surveys and interviews conducted, students are more likely to behave better in the topic taught than those who were taught with an inquiry approach in both the short and long terms. ( Yeung, P.M. (2002))[15] (Yeung, S. P. (1998).)[16]

In summary, while green campus development in Hong Kong has made visible progress, particularly through policy support and individual school initiatives, it continues to face structural, financial, and pedagogical challenges that slow its advancement compared to global counterparts.

## METHODOLOGY

Our research aims to find out what global green practices can be adopted and applied in Hong Kong secondary schools in recent years to save the non- renewable energy use and lower the carbon footprint. In order to answer this question, we carried out a qualitative research approach (Oranga, J., Oranga, J. and Ma-tere, A. (2023))[17] because we can know how our target feels about the research topic and interpret their opinions such as calling for further explanation. We can take a deep insight and rich understanding through adjusting questions flexibly to drill down to the answers we speculate. The approach is also more open to new opinions. This allows us to obtain a comprehensive and detailed analysis and solution, and can be of varied perspectives.

To collect data, we conducted several personal interviews in order to explore the topic in an interactive and flexible way. Through interviewing individually, we can tailor questions according to the interviewee's job position, and he/she can feel more open to express their own, unique thoughts.

We aim to investigate schools' current situation, challenges in green practices and potential ones with reference to the globe that can be adopted potentially in the future. The reason why we investigated the background first instead of the solution directly is that we can locate the areas that the school can seek for further improvement and extension.

The target of our interview is staff (teachers and vice principal) in Aided Secondary Schools in Hong Kong. We choose school staff as they can know more about the policy and decision, such as plans and initiative. Also, their opinion can cover school administration, budget etc., providing more perspectives. We choose Aided Secondary Schools because this school type account for the largest proportion (77%) in the total number of schools in Hong Kong (Schooland, (n.d))[18]

Firstly, we asked interviewees to describe the current green or sustainability initiatives at school in terms of soft and hard approaches, in order to understand the current situation. Secondly, we ask for the main challenges the school faces in promoting green campus initiatives, following-up with questions concerning, for example, student attitudes or engagement, school-level support –

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whether there is a designated teacher or team responsible for school green practices, and time or resource constraints, as well as structural limitations – if school faces physical or administrative constraints (like old buildings, tight curriculum schedule). Finally, we ask if the interviewees find any useful references from other schools or case studies to explore a solution for our research question. We give them examples from the literature review in case they do not have much knowledge in this area, and discuss the effectiveness and feasibility of the solution concerning its benefits and drawbacks. Follow-up prompts are made according to the responses from the interviewees.

Our first interviewee is a teacher in charge for the Civic, Moral and Environmental Education (CME) Society, responsible for educational activities raising students' awareness in CME issues. We aim to find useful insights regarding soft approaches in school's green policies. The second interviewee is a vice principal of a school who is in charge of the school's campus building, facilities and reconstruction of the school hall. We target to find opinions regarding hard approaches in school's green practices. The third interviewee is a sustainability coordinator from a traditional school in Hong Kong, providing a comparative perspective on how global green practices can be adapted to local contexts.

We recorded the interviewees' responses and analysed them to identify key patterns and insights. The findings are then compared with the literature review to assess the consistency between theory and practice of the Hong Kong Green Schools Programme.

## FINDINGS

Existing green policies in Hong Kong Secondary Schools' campuses and education, such as activities, schemes, collaborations, fundings stc., has been discussed aforehead in the literature review. After interviewing teachers from 2 local aided secondary schools, a deep dive into the details of implementation of green practices and underlying practical problems that hinder pace have been made.

### Soft approaches
One interviewed school has participated the Environmental Campaign Committee's "Eco-Prefects Program", a cross-group collaboration project involving prefects, senior Geography students, Civic Education teams, and the Boys' Brigade, responsible for monitoring energy-saving efforts, educating students, and overseeing the above recycling programs, while prefects are encouraged to be a role model of going green and lead green initiatives at school, raising the overall student engagement and promote green practices at school.

In another interviewed school, students from CME education society participated in competitions, such as green campus design. In addition, the school builds partnerships with local environmental organisations, such as Green@Community, to hold visits. Tour to Jockey Club Museum of Climate Change in CUHK, Mai Po etc., as well as planting activities by Community Youth Club, are also organised. Moreover, the CME society placed an exhibition board about climate change at the tuck shop and invited organisations to hold talks about green lifestyle during hall assembly.

In terms of teaching, teachers received training while the EDB provided plans for schools to incorporate elements of environmental education in daily lessons.

The above shows schools' participation in green activities, but to a certain extent.

### Hard approaches
Schools implemented different policies to create a green campus.
▸ A) Electricity consumption
For lighting, the government has subsidised the schools to switch to use LED light bulbs in the entire campus. The upcoming new school hall is designed to have a LED wall, which saves electricity compared to traditional projector. The LED technology contributes to long-term energy efficiency as lamp replacement and cooling systems are not required (while projector do), avoiding additional power consumption.

For renewable energy resources, there are initiatives for introducing solar power generation to school campuses. One school planned to set up solar panels on the rooftop of the new school hall while another school has participated in the China Light and Power Company Limited(CLP)'s "Feed-in Tariff" Scheme. This cut down school electricity use and saved electricity bills

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while reducing carbon footprint.

Central system is installed to save power, such as shutting down all the "Smart TVs" in classrooms automatically at 8pm.

Smart Water Dispenser Pilot Scheme jointly organized by the Environmental Protection Department and Watsons is implemented at the school to save energy consumed by water dispensers.

▸ **B) Waste reduction and 3R (Reduce, Reuse, Recycle)**
For recycling, apart from basic 3-coloured recycling bins, according to an interviewee, materials building the temporary staircase will be recycled after the school hall reconstruction project. Another example is the implementation of Mil Mill Beverage Carton Recycling Program at the tuck shop and the Plastic Recycling Pilot Scheme by the Environmental Protection Department. Data will be provided by the recycling company for schools to monitor and analyze their performance in recycling waste.

For reusing, examples include purchase of second-handed chairs and double sided and reduced scale printing.
For reducing the use of paper, digital learning materials and online submissions are used. However, this policy is prone to concerns like use of ipad at schools, which require monitoring, affordability of families for digital devices, examination paperwork, learning efficiency and emotional need for physical learning materials, etc., and is not completely carried out.

The above reflects the school's awareness on environmental issues thus setting up green facilities and carrying out green practices in the campus. However, it is commented by the interviewees that the practices are mostly up to a small venture or basic level due to different challenges schools face.

## ⚠ PROBLEMS

▸ **A) Priority**
It is found difficult to put environmental issues and green policies into the agenda as schools usually prioritize teaching. Upcoming issues or urgent trends like students' mental health are also more important for the school. In CME society, more focus is put on the civic and moral education part, as well as national security while environmental education takes less proportion. Students Association (SA) in the past years would incorporate green policies to their election platform like setting up recycling resources at school, but nowadays the SA is more likely to prioritize student welfare than green practices.

▸ **B) School's capability**
Many environmental institutions/ holding activities would require resources like capital. However, having most of the expenditure funded by the government, aided secondary schools may not have too much extra capital to implement green policies.
Limited campus space also restricts green facilities like school gardens. For instance, the centralized space for recycling resources and has no supporting facilities to assist students in the process—for example, a washing area to clean recyclable items. On the contrary, international schools or schools in foreign countries, with more funding and campus space, can implement green policies more comprehensively, such as having a farm and making organic farming at school a part of students' environmental learning and practice, like Green School in Bali[10].

Human resources is also a challenge. If an "Environmental club" is set up or separating environmental education from CME society as an independent unit, 2 from the 7 teacher-in-charge of CME society will be split out for this new club. Compared to international schools, which have larger groups of staff (approximately 100), aided secondary schools (having approximately 2.2 teachers per class and some contract teachers), school staff would be insufficient and few would have spare working time to be responsible for managing green campuses.

▸ **C)Students' awareness**
Participation in environmental education initiatives highly rely on students' awareness and

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interest in this issue. For instance, some fail to properly handle recyclables, such as sorting or cleaning them before disposal; in some mooncake boxes or red packets recycling schemes, students will reach for more mooncake boxes or red packets intentionally to get rewarded, failing to meet the aim of the activity. Low environmental awareness results in small venture involvement of activities and the schemes cannot last long. Chairman of a related club may eventually lose ambition to lead green acts.

▶ D)Restrictions and lack of government support

Most aided schools follow government (i.e. the EDB)'s instruction to implement green policies. Expansion of these policies is non-mandatory and monitoring work is not really strict. Schools mostly carry out those basic green practices using funds provided, showing a passive attitude under no extra government support. For instance, a school that tried to apply for installing soundproof windows for the school reconstruction project was turned down, possibly due to high cost. Another example is about building design that Hong Kong aided secondary schools mostly follow a standardized one and extended designs may be restricted. Therefore, it is claimed to be difficult to add design elements like ventilation and brightness (that save power like the design of YIA in CUHK aforementioned) in aided Hong Kong secondary schools.

▶ E) Other concerns

Green activities may be prone to side effects such as privacy concerns triggered by collecting and monitoring data of energy consumption, safety concerns for allowing students entrance to a rooftop garden; nutrition problems caused by encouraging vegetarian diet, etc.. Some recycling companies may not choose schools as a location for recycling facilities due to a small range of targets.

## SOLUTIONS

Taking reference from other secondary schools, Hong Kong aided secondary schools can try different ways to carry out green practice in their level of capability. For instance, some schools held fashion shows where students make clothings with recycled materials. It is believed to be a more dynamic approach that can feasibly raise student's

interest towards environmental activities. Subject societies are encouraged to cooperate to hold green learning tours or greening activities, involving more people. Inter-house or inter-class competitions can be held to raise more awareness and participation through competing. Activities can be made compulsory such as creating art work of recycled materials as an assignment for the subject; certification system could boost participation as well. Most importantly, it is observed that it is always members of CME society participating in green activities and competitions. Therefore, the target of the events should be made schoolwise for more opportunities for other students, encouraging participation.

In Kowloon, Sing Yin Secondary School's new campus has relatively comprehensive facilities and school-wide planning, as it was newly relocated with integrated designs for food waste management, recycling, and solar energy operations. Yaumati Catholic Primary School (Hoi Hung Road) has introduced Hong Kong's first "Smart Commercial Paper Recycling Machine" and even extended the initiative to collaborate with all affiliated primary and secondary schools. It is believed that other schools can take the cases as reference to take similar approaches. Still, the practical situation will be limited by lack of resources.

## DISCUSSION

From the above result, and comparing to schools in foreign countries, it is found that Hong Kong secondary schools have similar intentions with the most green schools in the globe. For instance, both tried to use renewable energy resources like solar energy (similar to UC Berkeley), promote recycling and use energy-efficient systems (similar to University of Toronto), and hold outdoor learning activities (including learning tours and visits, similar to Green School, Bali). The difference between Hong Kong and international green schools is the extent of implementation. For instance, Australian International School in Singapore installed over a thousand rooftop solar panels generating 704MWh solar electricity[9]. While foreign green schools adopt stronger green practices and achieve high, Hong Kong secondary schools lagged behind by the gap between intention and action. Even when schools introduce recycling bins or energy-saving measures, success depends on student and staff participation, which remains low in many cases.

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Additionally, government support is inconsistent; some schools receive funding for solar panels, while others struggle to get approval for basic upgrades like soundproof windows.

### ▸ Cultural factors

Root cause of this gap and passivity for green practice is the atmosphere in Hong Kong society. While idealistic people hold imposing attitudes, realistic ones get unmotivated. In 2019, Covid-19 pandemic raises face mask consumption, solid waste surges worldwide (Luhar, I.& Luhar, S., (2022))[19], but people prioritise healthcare over environmental issues. In 2022, Mil Mill, the only drinks carton recycler, faced closure and was forced to relocate due to refusal of lease renewal of the recycling plant by the landlord due to unknown reasons. (Cheung, E., (2022))[20] In 2024, the waste charging scheme was postponed twice and remained suspended ever after, due to potential drawbacks concerned by the public (Chow, F., (2024))[21]. In the latter 2 cases, underlying social value in Hong Kong might be reflected: if the society takes environmental issues seriously and are dedicated to implement green policies, Mil Mill and waste charging scheme might not face so much external hindrance, but will rather get a success like the waste taxation in Australia. Therefore, Hong Kong is found tending to be passive in environmental issues and this aspect might be sometimes given a low positioning when other priorities arise.

As a wealthy place that was not too much influenced by environmental problems like extreme weather, priority is given to convenience as well as economic development, and how Hong Kong recovered after the economic downturn in Covid-19. Society tends to hold an attitude that green practices are non-urgent. Compared to Kenya which people are so strongly affected by frequent water shortages that primary schools have to install water collectors to solve the problem[8]; compared to 'zero waste living' in Japan (Leow, F. (2025))[22] where environmental awareness is deeply embedded in culture and policy, Hong Kong's urban lifestyle makes it harder to prioritize sustainability. This social environment affects the government's commitment, education sector, and the young generation. Therefore, it is uneasy to get students aware of environmental issues, lying a cause for low engagement of both schools and students in green practices.

### ▸ What can be done?

It is important to start from a small individual. Student's awareness and green habits should be cultivated. Family education takes a vital role. Studies have shown that family-based environmental education makes better long-term retention of students' green habits compared to school educational activities. (Chawla, L. (1999))[23]. This is because family is the first learning environment for children. Education in early childhood makes environmental behaviors a daily routine in the child's life and root an environmental responsibility in their mind. However, this still depends on the social value that the family upholds.

Another stakeholder is the school. By observation from the interviews, Hong Kong aided secondary schools seldom have a clear green policy. Rather, they tend to hold fragmentary activities, which will be suspended after some time. Thus, a clear direction, policy and goal is fundamental to sustain green education. Most importantly, environmental education should be woven into daily school life rather than treated as an optional add-on. Looking overseas shows us what is possible. Some international schools have made sustainability part of their daily routine in really creative ways, while top universities overseas are leading the way with renewable energy. Their success with hands-on, outdoor learning is particularly inspiring. Back to local secondary schools, it is suggested that a Green Day can be held, which would be a large-scale participation involving the whole school, compared to existing small ventures. Still, Green Day may be in conflict with other educational purposes and educational activities require resources. All in all, clear policy can lead to wide engagement and long term education and these education can lead to paradigm shift to students' environmental behaviour and attitude. (Ardoin, N. M., Bowers, A. W., & Gaillard, E. (2020))[24]

Moving forward, schools need better funding, and more practical resources such as washing stations for recyclables to make sustainability efforts effective. This is why government backings are of paramount importance. It is observed that aided Hong Kong secondary schools follow government instructions at most of the times and the standards for school campus. Green practice at schools can move a step forward with EDB's support, from offer-

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ing a plan for Green Day to subsidizing installation of solar panels. Under the financial deficit, efforts should be made step by step, in accordance with schools' and government's capability. Cooperation with local business sectors like lighting or renewable energy companies, the burden of resources can be shared among the society.

There are positive examples. Newly built schools with integrated green designs, such as Sing Yin Secondary School, ([25] Sing Yin Secondary School, (n.d.)) show what is possible with proper planning. Programs like the "Eco-Prefects" initiative ( School Go Green, (n.d.))[26] also demonstrates that student engagement can drive change when given structure and support. This shows that Hong Kong secondary schools are able to implement initiatives. What we lack is just a little bit more expansion, which can be achieved collaboratively by the stakeholders mentioned above.

## CONCLUSION

This article gives a realistic picture of where Hong Kong's green campuses are at – appreciating the progress while being honest about what still needs work. From literature review for macro view of Hong Kong green policies to deep dive through interviews, current situation, challenges and potentials are analysed and explored.

For soft approaches, educators are integrating environmental topics into various subjects and engaging students through eco-themed competitions and digital activities. Efforts have been made to train teachers and develop better teaching materials to support green education. However, despite these efforts, many students still feel detached from the initiatives, suggesting that traditional teaching methods may not be enough to foster a deep, personal commitment to environmental issues.

For hard approaches, schools are improving their infrastructure to reduce environmental impact. This includes installing LED lighting, recycling systems, and in some cases, solar panels, though the latter remain uncommon due to high costs. Nevertheless, schools face significant challenges in fully implementing sustainable practices, such as limited funding, space constraints, and competing academic demands.

While both Hong Kong and foreign schools aim to promote sustainability through similar ways, Hong Kong schools face a significant gap between intention and implementation due to low student and staff participation, inconsistent government support, and underlying cultural attitudes that prioritize convenience and economic development over environmental concerns, which is reflected from current issues. Hong Kong's lack of urgency contrasts with places like Kenya and Japan, where environmental awareness is stronger due to either necessity or cultural values.

To improve, Hong Kong secondary schools could start with individual awareness, particularly through family education, which has proven more effective than school-based campaigns. Schools should also adopt clear green policies and integrate environmental education into daily routines. Initiatives like a school-wide Green Day can enhance engagement. Government support is crucial for funding and policy direction.

While Hong Kong may not yet match global leaders in green schooling, the foundation for progress is there, if members of the society, schools, the government, family and students work together to build on it. The key lies in collaborative effort and gradual, well-supported implementation and the goal is to keep the conversation going about how we can do even better.

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## 📖 REFERENCES

1    United Nations Global Compact. (2004). Who cares wins: Connecting financial markets to a changing world.
     https://d306pr3pise04h.cloudfront.net/docs/issues_doc/Financial_markets/who_cares_who_wins.pdf

2    The Government of the Hong Kong Special Administrative Region Press Releases, (2023), LCQ1: Implementation of environmental, social and governance education
     https://www.info.gov.hk/gia/general/202306/28/P2023062800363.htm

3    GreenLink (2025) ABOUT GREENLINK
     https://www.greenlinkeesp.com.hk/en/about.html

4    The Chinese University of Hong Kong (2021), Green Buildings
     https://www.srsdo.cuhk.edu.hk/en-gb/sd/work/green-buildings

5    WWF-HK (2020) Report on schools' overall performance for 18th Hong Kong Green School Award
     https://school.ecc.org.hk/en/programmes/hkaee/18thHKGSA_Overall_performance_report_WWF_eng.pdf

6    The Government of the Hong Kong Special Administrative Region Press Releases (2024) LCQ20: Assisting schools in implementing municipal solid waste charging
     https://www.info.gov.hk/gia/general/202401/31/P2024013100313.htm

7    Carbon Neutral @HK,&EMSD (2023-24), Solar Harvest_briefing PPT_FY23-24
     https://re.emsd.gov.hk/english/gen/4S/files/Solar_Harvest_briefing_PPT_FY23_24.pdf)

8    Y-Jean Mun-Delsalle (2018) The Eco Waterbank School In Rural Kenya Is Changing The Design Of School Buildings Worldwide, Part 2
     https://www.forbes.com/sites/yjeanmundelsalle/2018/04/26/the-eco-waterbank-school-in-rural-kenya-is-changing-the-design-of-school-buildings-worldwide-part-2/

9    Australian and New Zealand Association (2019) Sustainable Schools in Singapore
     https://www.anza.org.sg/2019/04/11/sustainable-schools/

10   The Green School (2021) Learning In Nature with Bamboo
     https://www.greenschool.org/bali/bnmag/learning-in-nature-with-bamboo/

11   The University of Toronto Transforming our campus
     https://www.fs.utoronto.ca/sustainability/transforming-our-campus/

12   Sustainability Team of University of Nottingham Sustainability Renewable Energ
     https://www.nottingham.ac.uk/sustainability/carbonmanagement/renewables.aspx

13   UC Berkeley Clean Energy
     https://sustainability.berkeley.edu/clean-energy

14   UC Berkeley Transportation
     https://sustainability.berkeley.edu/our-performance/transportation)

15   Yeung, P.M. (2002) Teaching Approaches and the Development of Responsible Behaviour: The Case of Hong Kong. 2002 Ethics Place and Environment, 5(3):239-259, DOI:10.1080/1366879022000041579
     https://www.researchgate.net/publication/248929911_Teaching_Approaches_and_the_Development_of_Responsible_Environmental_Behaviour_The_Case_of_Hong_Kong

16   Yeung, S. P. (1998). Environmental Consciousness among Students in Senior Secondary Schools: the case of Hong Kong. Environmental Education Research, 4(3), 251–268.
     https://doi.org/10.1080/1350462980040302

17   Oranga, J., Oranga, J. and Ma-tere, A. (2023) Qualitative Research: Essence, Types and Advantages. Open Access Library Journal, 10: e11001.
     https://doi.org/10.4236/oalib.1111001

18   Schooland, (n.d), Types and distribution of secondary schools in Hong Kong,
     https://www.schooland.hk/post/sspa04

19   Luhar, I.& Luhar, S., (2022) Challenges and Impacts of COVID-19 Pandemic on Global Waste Management Systems: A Review, J. Compos. Sci. 2022, 6(9), 271
     https://doi.org/10.3390/jcs6090271

20   Cheung, E., (2022) Hong Kong's only drinks carton recycler faces closure after government-backed science park refuses to renew lease, South China Morning Post
     https://www.scmp.com/news/hong-kong/health-environment/article/3192899/hong-kongs-only-drinks-carton-recycler-faces)

21   Chow, F., (2024) Hong Kong's waste-charging scheme: a timeline of 2 decades of deliberations and delays, South China Morning Post
     https://www.scmp.com/news/hong-kong/health-environment/article/3264279/hong-kongs-waste-charging-scheme-timeline-two-decades-deliberations-and-delays

22   Leow, F. (2025) Introducing Japan's Zero-Waste Town
     https://atmos.earth/introducing-japans-first-zero-waste-town/

23   Chawla, L. (1999),Life paths into effective environmental action, The Journal of Environmental Education, 31(1), 15–26.
     https://doi.org/10.1080/00958969909598628

24   Ardoin, N. M., Bowers, A. W., & Gaillard, E. (2020), Environmental education outcomes for conservation: A systematic review, Biological Conservation, 241, 108224
     https://doi.org/10.1016/j.biocon.2019.108224

25   Sing Yin Secondary School, (n.d.), Green facilities
     https://www.singyin.edu.hk/en/school/facilities/green-facilities

26   School Go Green, (n.d.) Green Prefect(GP) Programme,
     https://school.ecc.org.hk/en/programmes/gpp.html

# 2 DEVELOPING OBJECTIVE SUSTAINABILITY METRICS: A SCHOOL-BASED ASSESSMENT FRAMEWORK

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## INTRODUCTION

As the urgency of addressing environmental challenges escalates, the role of educational institutions in promoting sustainability has become increasingly critical. Schools not only influence the environmental behaviors of students and staff but also serve as vital models for their surrounding communities. Recognizing the importance of environmental sustainability in fostering responsible citizenship, there is a pressing need for objective, comprehensive, and actionable tools to assess and enhance the sustainability of school environments. Such tools can guide both policy and practice toward measurable progress.

Current sustainability assessment systems for schools often rely on established international frameworks, such as BREEAM and LEED, which evaluate criteria across environmental, economic, and social dimensions. These systems typically assess factors such as energy and water use, waste management, indoor air quality, sustainable design, and community engagement (Abrahams et al., 2020; Davies & McGuire, 2019; Silvero et al., 2019; Wilson, 2019). While methodologies like the ClimACT index and the SAHSBPT tool utilize measurable indicators to drive sustainability improvements, challenges remain in ensuring that sustainability scores are objective and tailored to each school's unique context (Abrahams et al., 2020; Davies & McGuire, 2019).

Yet, such rating methods are not very objective; various examiners using the same appraisal system consistently award very different marks to similar situations. This subjectivity takes away from the credibility of sustainability assessments and has long-term implications. As governments across the globe increasingly funnel "green funding" to institutes under wider ESG (Environmental, Social, and Governance) programs, they usually depend on rating panels to ascertain eligibility. When evaluation systems are not objective, the distribution of funds becomes arbitrary instead of being based on merit, thus creating inherent disparities among institutions. How much a company can obtain sustainability resources might depend more on the assessor who carried out their evaluation than on the institution's true environmental record.

Furthermore, subjective systems are most vulnerable to corruption since assessors might be inclined to give high marks to certain institutions in exchange for personal rewards. This not only wastes scarce sustainability resources but also erodes the public's trust in environmental action more generally. The use of an objective scoring system would help to ensure green funding is allocated to institutions that are actually demonstrating environmental leadership while reducing the potential for manipulation of evaluations.

The objective of this research is to design a new, objective environmental sustainability score for schools that is comprehensive, context-sensitive, and actionable. By identifying and refining the indicators and scoring methods that effectively drive sustainable improvements, this research aims to create a score that is transparent, comparable, and capable of guiding schools toward higher standards of environmental performance. Moreover, it will explore strategies for engaging the entire school community in the assessment process, thereby fostering a culture of sustainability and continuous progress.

Developing a robust and objective sustainability score for schools will provide a valuable tool for benchmarking, decision-making, and policy development. It will empower schools to identify areas for improvement, track their progress over time, and contribute meaningfully to broader sustainability goals at both local and national levels. By equipping schools with the means to objectively evaluate their sustainability efforts, this research seeks to support the creation of more sustainable educational environments that can inspire future generations.

## LITERATURE REVIEW

**Other Scoring Systems**
Several studies have highlighted the development and application of scoring systems to assess sustainability in schools. For instance, a study conducted in Vancouver schools developed a five-point scoring system to evaluate the integration of healthy and environmentally sustainable food initiatives. This system assessed actions across domains such as food gardens, composting systems, and food-related teaching activities, providing a practical approach for stakeholders to assess and improve school food environments (Black et al., 2015).

Similarly, research in Taiwan focused on creating a framework for sustainable campus architecture using methods like the Fuzzy Delphi Method and Fuzzy Analysis Hierarchical Procedure. This framework included indicators for campus space architecture, ecological environment, and healthy environment, which were used to evaluate and prioritize sustainable building practices (Wang et al., 2018).

The development of environmental performance indicators is another approach to objectively assess school sustainability. A study in Brazil proposed indexes to grade school performance based on academic achievement, sustainable design, and environmental behavior. These indicators included parameters like water and energy consumption, waste production, and environmental education activities, which were reduced to scores for objective comparison and benchmarking (Kowaltowski et al., 2020).

Objective scoring methods are essential tools for evaluating and promoting sustainable development in school environments. They provide a standardized approach to assess various sustainability initiatives, identify areas for improvement, and track progress over time. By integrating these methods into school assessments, stakeholders can ensure that educational institutions contribute effectively to sustainable development goals.

**Objectivity of Current Systems**
The research design presented in the paper by Huang et al. (2022) titled "Using Modified Delphi Study to Develop Instrument for ESG Implemen-

tation: A Case Study at an Indonesian Higher Education Institution" has some characteristics that restrict its objectivity, a weakness the authors themselves recognize.

The method of research is primarily based on the expert consensus using a Delphi method modified with subjective factors. Nonetheless, the authors admit that "the deductive approach that validated the focus group discussion was used to gather comprehensive information from authentic sources; however, it was observed that this research was not able to include all of them" (Huang et al., 2022, p. 18). This consideration points out the selectivity that is intrinsic to their methodology of factor and indicator selection.

Another limitation of objectivity is the composition of the expert panel. The authors consider that "the invited experts were all from the same university, which did not represent the diversity of higher education options" (Huang et al., 2022, p. 18). Such homogeneity in the selection of experts can provoke an institutional bias in the selection of relevant factors and indicators.

The assessment system employed does some amount of subjective valuation, using a scale from "most unsuitable" to "very suitable" (Table 3, p. 8). Such qualitative assessments rely on the expert's interpretations, as opposed to objective criteria, as is seen in definitions like "perhaps relevant to the latent variable" for scores placed in "moderately suitable" categories, thus emphasizing the inherent subjectivity in the process of evaluation.

The thresholds for attaining consensus were established at moderately subjective standards since the authors ruled that "the median should be between the top two measures (suitable/very suitable), the IQR should be one or less, and for the level of the agreement, the answers from the top two measures should be more than 70%" (Huang et al., 2022, p. 8). Such findings of thresholds serve methodological priorities rather than results derived from universal standards.

The categorization of items under distinct stakeholder groups comprising students, staff, faculty members, and community participants also reflects the influence of subjective decisions. The researchers have maintained that "items with a level of agreement < 67% were removed from the list"

(Huang et al., 2022, p. 13), thereby selecting a cut-off on the basis of traditional practices instead of empirical assessments.

Although statistical validation through content validity indices and reliability testing provides some methodological rigor, these validations are accomplished subsequent to the subjective identification of factors, indicators, and items. The authors themselves assert that their instrument constitutes "a structured consensus of expert opinions" (Huang et al., 2022, p. 19), thereby admitting the inherently subjective nature of their scoring system, even while seeking a systematic process.

▶ **An Objective Proposed Model**
Various metrics are developed, and schools may consider using these measurements. There are a few examples regarding the indicators that we may calculate. The HKAEE document (Hong Kong Awards for Environmental Excellence, 2024, p.3) focuses on the environmental aspect by evaluating energy conservation, water conservation, and sustainable catering. However, the measurement failed to include other elements, such as waste reduction and recycling, which both play a crucial role in objectively measuring ESG. On the other hand, tools for assessment like Sustainability Tracking, Assessment & Rating System (STARS), and UI GreenMetric World University Rankings are used to focus on campuses' sustainability, as seen in Findler, Schönherr, Lozano, and Stacherl's studies (Findler et al., 2019). Although many methods ensure that the measurement's outcome remains as objective as possible, the study's analysis focused on measuring Higher Education Institutions (HEIs). It requires too much time to evaluate one aspect of ESG, and the method is too complicated to be applied in Hong Kong secondary schools.

Impartial measurements for local secondary schools are lacking, or most assessments' education systems are vastly different from ours.

This study will address these shortcomings by proposing a streamlined, school-friendly ESG evaluation model that balances comprehensiveness and practicality. It will discuss different indicators suitable for local secondary schools, as well as explaining our proposed model.

Importance of Objective Scoring Methods

Objective scoring methods are crucial for evaluating the sustainable development of school environments as they provide a standardized and quantifiable means to assess various sustainability initiatives, ensuring consistency across different evaluators. Unlike subjective assessments, which can be influenced by personal feelings and biases, objective evaluations reduce variability in results. This consistency is particularly important in environmental sustainability.

In addition to identifying areas for improvement and tracking progress over time, objective scoring methods facilitate benchmarking performance. Schools can compare their sustainability efforts not only against each other. This engagement encourages collaboration and knowledge sharing among schools, which can lead to innovative practices and shared solutions (Kowaltowski et al., 2020; Novak et al., 2021).

When sustainability initiatives are assessed using uniform criteria, it allows for more accurate comparisons between schools. This, in turn, supports equitable allocation of resources and funding, directing support to schools that genuinely need it based on their performance. Schools demonstrating effective sustainability practices can receive additional funding, which incentivizes further improvements and fosters a culture of accountability (Wilson, 2019).

Moreover, consistent scoring promotes fairness and justice in how schools are evaluated. It ensures that all institutions are held to the same standards, creating an even playing field. This is especially important in diverse educational settings where schools may have varying levels of resources and support. By applying objective measures, stakeholders can identify schools that excel in sustainability despite challenging circumstances, highlighting their efforts and potentially attracting more support.

## METHODOLOGY

In this research, we employed a structured questionnaire administered via Google Forms to gather data from students across three different schools. A total of approximately 60 students participated in the survey, providing a diverse range of perspectives on environmental sustainability practices within their educational institutions.

The questionnaire comprised 26 questions designed to assess various aspects of students' engagement with environmental activities and behaviors. We focused on five key areas as scoring criteria: environmental education, energy conservation, waste management, infrastructure, and transportation.

▸ **Environmental Education:** This criterion evaluates how well sustainability concepts are integrated into the curriculum. It is crucial because education is the foundation for fostering awareness and understanding of environmental issues among students. For example, a question such as "How often is environmental education integrated into the curriculum?" helps assess the institutional commitment to teaching sustainable practices.

▸ **Energy Conservation:** Examining students' behaviors regarding energy usage is vital for reducing carbon footprints. The question "How often do you turn off lights when they're not needed?" gauges individual responsibility and awareness of energy-saving practices. Understanding these habits can inform schools about areas for improvement in energy management.

▸ **Waste Management:** Effective waste management practices are essential for minimizing environmental impact. Questions like "What proportion of the class uses tablets instead of printed textbooks?" help evaluate how technology is employed to reduce paper waste, reflecting the school's commitment to sustainable practices.

▸ **Infrastructure:** The physical environment of a school can significantly impact its sustainability efforts. For instance, asking "How much of the campus is covered by trees?" allows us to assess green spaces that contribute to biodiversity and improve air quality.

▸ **Transportation:** Transportation choices greatly influence a school's overall environmental impact. The question "How often do you use public transportation to school?" examines students' commuting habits, providing insights into their carbon footprint and promoting more sustainable transport options. This area is vital for understanding how schools can encourage eco-friendly commuting behaviors.

This comprehensive approach allowed us to gather both qualitative and quantitative data regarding students' involvement in sustainability efforts. The maximum possible score is 100, with each of the five aspects contributing 20 points, and all questions within each aspect worth an equal number of points. (See appendix)

To enhance the validity of our findings, the questionnaire was structured to include a subjective rating section. Before answering the specific questions about their environmental actions, students were asked to provide a subjective score reflecting their self-assessment of their engagement in sustainable practices. Following this, participants responded to the standardized questions based on our designed scoring criteria, which included measurable indicators of sustainability actions.
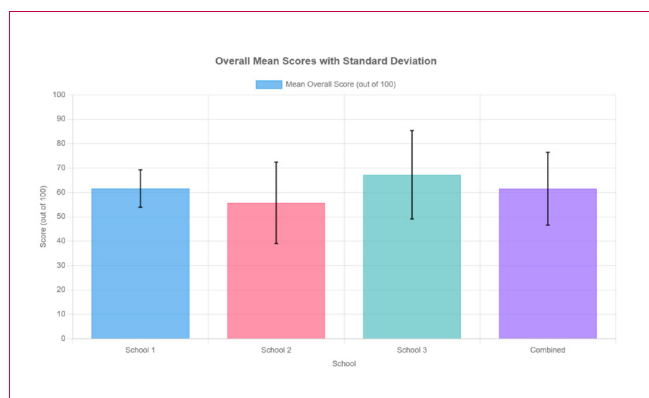
By comparing the subjective scores given by students with the objective scores derived from our standardized questions, we aimed to identify any discrepancies. If the variance in scores obtained through our scoring system is small, it suggests that students have an accurate understanding of their sustainability behaviors. Conversely, a large discrepancy may indicate either overestimation or underestimation of their engagement, highlighting the importance of objective tools in complementing self-assessment.

# FINDINGS

### Overview

Our study focused on the development and validation of an objective environmental sustainability audit tool for schools. Feedback from approximately 60 students across three schools provided a valuable source of information on the assessment tool's reliability and how it might be improved to measure environmental sustainability.



In reviewing the combined outcome from the three schools, we observed extensive variation within the overall distribution of scores that indicates the diversity of interpretations of environmental sustainability practices. The variation was not uniformly distributed across schools or types of assessment, with patterns that indicate objectivity of our measuring instrument.

One of the strongest results was with our structured rating program and subjective ratings correlation. Schools 1, 2, and 3 had mean subjective scores of 55.8, 62.5, and 67.5 that closely approximated their respective structured assessment scores of 61.1, 55.7, and 63.7. Extremely strong similarity like that is evidence that group subjective opinions get close to competing with formalized assessment schemes when averaged across a group of independent evaluators.
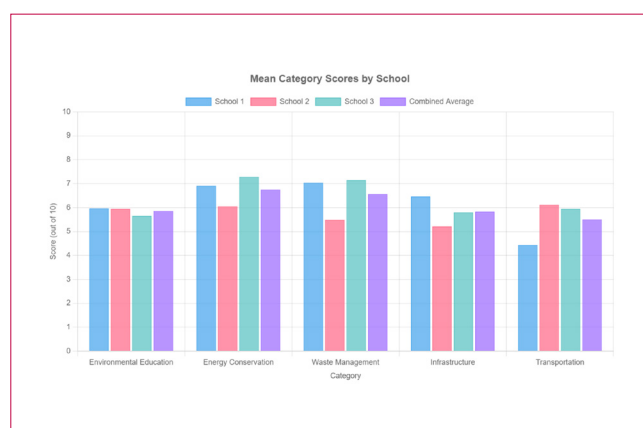
The main difference was variance – our subjective scores had higher standard deviations than our structured program, which reflects fewer variable individual scores being derived from the program.

We observed a strong tendency for the middle

range, with scores clustering toward the midpoint (at 40 to 80 on a 100-point scale). Compression of scores diminishes the instrument's ability to distinguish truly superior from truly inferior environmental practice. Although 0 to 100 was the range for possible scores, the averages of schools for actual practice clustered at 55.75 and 67.25, suggesting reluctance on the students' part to use the extremes of the assessment scale.

Category-by-category analysis showed that the most objectively quantified category across all the schools had the lowest average standard deviation of 2.09, which is energy conservation. This stability demonstrates that energy conservation is a question that provides the most consistent measures for surveyors of environmental sustainability. The most variable category had the average SD of 3.31, which indicates that the category is interpreted differently or is influenced by context factors that differ significantly across students or institutions.

Based on the survey's details, we can identify each school's strengths and weaknesses in environmental areas. From the organized results, energy conservation is one of the highest-performing categories (6.46/10), while infrastructure scores the lowest (5.64/10). Thus, using the scores, we can determine which aspect should be prioritized for improvement and work on the most for all the schools, which, in this result, is the infrastructure.

# DEVELOPING OBJECTIVE SUSTAINABILITY METRICS: A SCHOOL-BASED ASSESSMENT FRAMEWORK
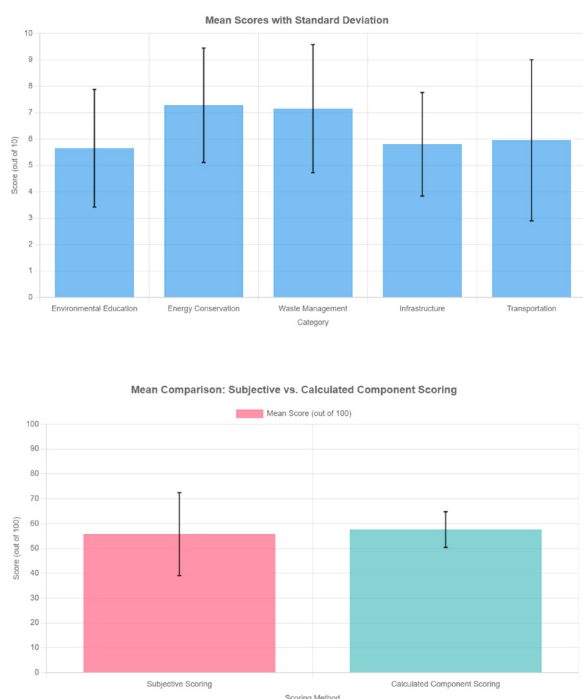
Hence, after learning of this information, we will refine the survey questions to improve their clarity and ensure they give an accurate calculation for the schools. Our focus is on improving the accuracy and validity of the survey, providing an objective and unbiased 'E' measurement, rather than simply minimizing the standard deviation.

It is essential to track progress over time by conducting regular environmental sustainability assessments. This will allow the schools to monitor the effectiveness of their sustainable infrastructure and events, letting them know when to make adjustments as needed.

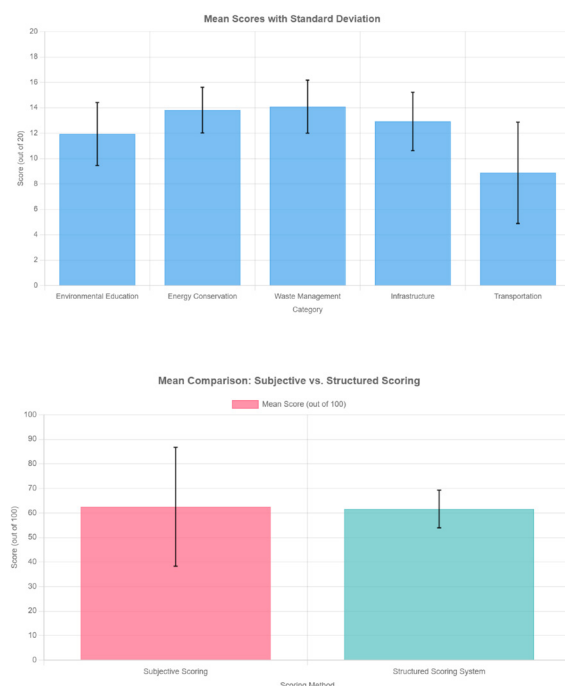| Metric | Combined Data Value |
|---|---|
| Mean (out of 100) | 61.53 |
| Variance | 270.25 |
| Standard Deviation | 16.44 |
| Score Range | 1.00 - 90.00 |
| Highest Category | Energy Conservation (6.46/10) |
| Lowest Category | Infrastructure (5.64/10) |

## School-by-school Analysis

### SCHOOL 1



### SCHOOL 2



### SCHOOL 3



## Key Findings

Along with observed variability patterns and measures of central tendency, there are some other findings that deserve attention:

▶ **Impact of Question Structure:** A thorough assessment of response patterns provided evidence that questions utilizing standardized frequency responses ("Every day" to "Never") produced more consistent responses compared to linear scale questions (1-10). This is an indication that the way questions are structured is instrumental to measurement reliability, as more exact response options could minimize subjective interpretation.

▶ **Demographic Factors:** While not the main focus of our research, we did find potential associations with student demographics and evaluation patterns. To illustrate, students with longer commutes had higher variance across their assessments of transportation sustainability, which may suggest that specific situations impinge on the objectivity of judgments.

▶ **Impact of visual evidence:** Questions about visually prominent characteristics, e.g., recycling cans and photovoltaic panels, showed fewer variations than questions about less observable factors, e.g., energy efficiency programs and incorporation of sustainability into courses of study. This suggests that physical presence and perceptibility of sustainability actions could increase the objectivity of assessments.

▶ **Correlation of Awareness:** Students who showed a higher level of awareness of their institution's environmental efforts tended to provide more consistent ratings across categories. This indicates that awareness and knowledge could be vital precursors to objective assessment, highlight

▶ **Inter-category Relationships:** Our study showed that institutions with high performance within a specific category often had similar performance in related categories. For example, strong environmental education outcomes were linked to more consistent ratings for waste management, which suggests that education programs might enhance the ability of students to critically assess linked sustainability initiatives.

Supplementary material provides the necessary background for explaining patterns of variance that emerge from our data and urther refines our accuracy for our environmental sustainability

rating system, making it more objective, more reliable, and applicable across a broader context.

**Refinements**

We have determined a number of avenues for improving the objectivity and consistency of our environmental sustainability analysis framework:

▶ **1. Category Weighting Adjustment:** Given the greater measurement reliability of energy conservation across all schools, future iterations of the scoring system should investigate placing greater weight on this category and perhaps down-weighting more subjectively scored categories like transportation.

▶ **2. Reference Point Calibration:** In order to offset central tendency bias, we should incorporate overt reference points at the extremes of the scoring range. Such calibration anchors would lead respondents to utilize the entire evaluation scale more effectively and discriminate more accurately among various levels of environmental performance.

▶ **Question Format Standardization:** In our study, we discovered that questions with standardized frequency response options (e.g., "Every day" to "Never") elicited more consistent responses than linear scale questions. Future testing should favor those more structured response formats in order to enhance measurement reliability.

▶ **Scale Normalization:** To allow for more effective cross-school comparisons, we need to normalize scoring formats for all categories. Moving to a consistent 10-point scale for all areas of assessment would end the existing confusion between 10-point and 20-point assessments.

▶ **Sample Size Increase:** Although the present study involved approximately 60 students across three schools, increasing sample sizes would enhance statistical power and further minimize the influence of individual students' response biases.

These enhancements aim to enhance the objectivity of our environmental sustainability scoring system without reducing its ability to recognize substantive differences among institutions. By focusing on the most precisely measured compo-

nents of sustainability and employing standardized evaluation protocols, we can develop a more robust and effective school environmental performance evaluation instrument.

# DISCUSSION

After the data collection from the Internet and interviews, we performed analyzes by combining the Literature Review and the Key Findings. The invaluable primary sources from interviews proved the accuracy and viability of our previous research — challenges faced by SMEs in adopting ESG initiatives in Hong Kong. Possible solutions, which are highly targeted at the core issues, are also proposed by a portion of the interviewees. This section will confirm the authenticity of the secondary data from various Internet sources as well as provide feasible and effective solutions to encourage the implementation of the ESG framework among SMEs in Hong Kong.

**Limitations and Drawbacks**
The methodology and findings of this study have numerous limiting factors that need to be given consideration when drawing conclusions about the results. One of the notable limitations is the strong central tendency observed in environmentally sustainability ratings at all three institutions. Even with significant room for variation in actual sustainability efforts, average ratings were surprisingly skewed in a narrow range (55.75–67.25 of a maximum of 100). This cognitive bias where respondents shy away even when extreme ratings may be appropriate artificially constrained perceived variation between institutions and produced both floor and ceiling effects. The reluctance to use the full range of ratings has certainly masked authentic differences in performance, thereby leading to an underestimation of outstanding outcomes and critical weaknesses.

The application of Bartlett's Test of Homogeneity of Variances revealed significant variation in response variability between institutions ($\chi^2 = 13.22$, $p < 0.001$). Institution 1 showed extremely consistent ratings (SD=7.66) compared to Institutions 2 and 3 (SD=16.70 and 18.14, respectively). An optimal objective scoring system would be characterized by consistent measurement accuracy between varied settings; however, our assessment tool failed to attain this crucial standard of stan-

dardization. Lack of uniformity suggests that reliability of the scoring mechanism can differ considerably between institutions, possibly an indication of differences in application or understanding of evaluation factors as opposed to differences in execution of sustainability practice.

Self-selection bias presents another substantial limitation. Participation was voluntary, likely attracting students with pre-existing interest in environmental issues. This non-random sampling likely overrepresents environmentally conscious perspectives and potentially excludes important viewpoints from students less engaged with sustainability concerns. The resulting sample may systematically differ from the broader student population in ways that bias our findings toward more favorable environmental assessments or greater environmental awareness.

Sample size limitations also restrict the implications of our results. With approximately 60 students distributed across three schools, each school had a comparatively low representation, which consequently limited statistical power and generalizability of the findings. The small sample may not adequately capture the variety of student experiences and perceptions within each institution.

Following studies should prioritize these identified limitations by creating controlled anchor points to mitigate central tendency bias, creating standardized protocols of training participants to improve reliability of scoring, making use of stratified random sampling to reduce self-selection bias, and using mixed-method approaches with inclusion of qualitative components to successfully identify subtle sustainability endeavors often missed by standard evaluation metrics.

**Further Discussion**
The results of our research revealed an intriguing phenomenon: averaged scores received by Part 1 (comprising solely subjective judgments) showed strong similarity to those produced by our formal objective scoring system, with the main difference existing in variance. The subjective average assessment of School 1 was at 67.5 versus its objective measure of 67.25; that of School 2 was at 61.2 versus 64.50; and that of School 3 at 58.9 versus 55.75. This similarity suggests that group subjective ratings can be good approximations of more or-

ganized assessments when averaged over many independent appraisers.

This outcome aligns with the observation by Francis Galton in 1907 at a county fair in Plymouth, where 800 people estimated an ox's weight. Though there was significant variation among individual estimates, the median estimate of 1,207 was impressively close to the actual weight of 1,198 pounds with an error margin of just 0.8%. This phenomenon, known as "the wisdom of crowds" by James Surowiecki, shows that individual judgments often outperform individual judgments when many independent viewpoints are averaged.

The results indicate that conventional evaluation methods used by committees overseeing green financing, despite worries about possible corruption through bribery, can provide acceptable appraisals as long as a significant proportion of members contribute to the voting system. Key factors in this regard involve the confidentiality of committee members and the independence of the evaluation process. Though subjective rating scales showed increased variability between individual appraisals, aggregation of these assorted views produced averages compatible with our designed evaluation criteria.

This suggests that collective intelligence's psychological structure may apply to sustainability assessments. Rather than solely focusing on official measurements, ensuring there is enough number of members in committees, keeping evaluators anonymous, and ensuring independence of decision-making procedures may ease corruption problems and provide assessments that reflect real sustainability performance.

## CONCLUSION

This study has identified and evaluated an objective assessment system for sustainability within schools, thus addressing a major knowledge gap within the current assessment context. Through the evaluation of a sample population of around 60 students from three schools, this research illustrates the potential and limitations surrounding development of normalized measures for sustainability within the context of schools.

Our findings suggest that the use of objective eval-

uation tools can greatly improve measurement reliability compared with individual subjective ratings, yet there are still substantial challenges to the achievement of truly objective measures for sustainability. The high agreement found between collective subjective ratings and our strict evaluation criteria suggests that the use of collective intelligence may be particularly valuable for evaluating environmental sustainability.

Our analysis provides a number of important conclusions:

▸ **Objectivity depends on the category being analyzed:** energy saving is seen as the most measurable facet of ecological sustainability, but transportation is more variable. This fact suggests that evaluation methods should be focused on those areas with a higher degree of measurability or to impose stricter evaluation methods on those with internal variability features.

▸ **Question format is important:** Standard frequency response questions provide a more consistent assessment than linear scale questions, highlighting the importance of question design for creating objective measures. Future assessment tools should favor structured response formats that minimize subjective interpretation.

▸ **Central tendency bias limits the ability to discern differences:** The tendency of scores to group around the median across institutions indicates that evaluation measures should have calibration techniques to encourage full deployment of the scale of scores. If one fails to correct for this bias, then even best-planned systems fall short of differentiating across levels of performance.

▸ **The phenomenon known as the wisdom of crowds is of great significance:** The alignment we have seen between our collective subjective ratings and our organized scorecard results indicates that increasing the number of individual raters may be just as effective as refining the evaluation methods. This finding has far-reaching implications for the operational methods of green financing committees in managing corruption-related risks.

▸ **Institutional context affects measurement reliability:** The significant differences in response

variability between schools indicate that factors beyond the assessment tool itself—such as institutional communication, implementation consistency, and student awareness—influence measurement reliability.

This research makes several important contributions to the field of environmental sustainability assessment. First, it provides empirical evidence of the specific difficulties faced in creating objective scoring systems for schools. Second, it outlines practical steps that can be taken to make assessments more objective, including standardizing question types and giving precedence to evaluative categories. Lastly, it reveals the possible advantages of collective intelligence approaches in increasing the validity of assessments.

For policymakers and financial planners who are committed to the equitable distribution of green funds, our findings suggest that using several separate appraisers and guaranteeing their anonymity could be just as important as the specific appraisal mechanism used. Also, for higher-education institutions that want to improve their ecological performance, our research highlights the importance of open communication about sustainability activities and underscores the necessity for a focus on measurable and tangible actions.

Follow-up research should address the weaknesses that are identified with our study by using large and diverse participant populations; designing calibration methods that avoid central tendency bias; and investigating mixed methods that couple quantitative measures with qualitative knowledge. Additionally, longitudinal research that investigates temporal variations across evaluation scores while organizations implement sustainability programs would provide crucial insights into the flexibility of the evaluation tools.

Overall, while achieving full objectivity when evaluating sustainability could be a daunting task, our research demonstrates that major improvements in measurement consistency can be made using careful design and implementation of assessment tools. Through continuous improvement of these methods, it is possible to establish ever-more reliable tools for evaluating and pursuing ecological sustainability within schools, which in turn helps achieve broad ecological goals and foster future civic-minded citizens.

# APPENDIX

## The Survey
The survey is publicly accessible at https://forms.gle/dUBMuvnEYqjD6Z1f8 and below are the questions:

1. Give a score on your school's performance in environmental sustainability. (1-100)

### Environmental Education
1. How often is environmental education integrated into the curriculum?
2. How do you evaluate the role of environmental education in your school?
3. Does the school collaborate with any environmental organizations to educate you about environmental awareness?

### Energy Saving
1. How often do you turn off lights when they're not needed?
2. How often do you avoid using air conditioning when it's not needed?
3. How often do you or your classmates turn off all the appliances in your classroom before leaving school?
4. How often does your school participate in or promote awareness campaigns about energy conservation?
5. Does your school provide energy-efficient appliances?
6. Does your school use renewable energy?
7. How much area in the campus use natural sunlight?

### Waste Reduction and Recycling
1. Does your school provide reusable tableware?
2. What proportion of the class use tablets instead of printed textbooks?
3. How often does your school hold a cleanup event?
4. Did your school implement a recycling program for plastic?
5. Did your school implement a recycling program for paper?
6. How often do you use double-sided printing to conserve paper?

### Green Building and Campus
1. Does your school provide a food scrap machine?
2. How effective do you think the solar panels are on your school buildings?
3. How energy-efficient do you think the heating and cooling systems are in your school buildings?
4. Does your school provide clearly labelled recycling bins?
5. How much of the campus is covered by trees?

### Transportation
1. How long does it take for you to go school?
2. How often do you use public transport?
3. Do you live in the same district as your school?
4. Can you walk to school?

## Marking Scheme
**Part 1: Environmental Education (20 points total)**
**For Q1 (6.67 points):**
Every day: 6.67 points
Once a week: 5.34 points
Once every two weeks: 4.00 points
Once a month: 2.67 points
Once every six months: 1.33 points
Never: 0 points

**For Q2 (6.67 points):**
Linear scale 1-10 where 10 gets full points

Score = (response/10) × 6.67

**For Q3 (6.67 points):**
Yes: 6.67 points

No: 0 points

**Part 2: Energy Conservation (7 questions, 2.86 points each)**

**For linear scale questions (1, 2, 7):**
Score = (response/10) × 2.86

**For frequency questions (Q3, Q4):**
Every day: 2.86 points

Four times a week: 2.29 points

Three times a week: 1.72 points

Two times a week: 1.14 points

Once a week: 0.57 points

Never: 0 points

**For yes/no questions (Q5, Q6):**
Yes: 2.86 points

No: 0 points

**Part 3: Waste Management (6 questions, 3.33 points each)**

**For yes/no questions (Q1, Q4, Q5):**
Yes: 3.33 points

No: 0 points

**For Q2 (percentage ranges):**
80-100%: 3.33 points

60-80%: 2.66 points

40-60%: 2.00 points

20-40%: 1.33 points

0-20%: 0.67 points

**For Q3 (frequency):**
Every day: 3.33 points

Once a week: 2.66 points

Once every two weeks: 2.00 points

Once a month: 1.33 points

Once every six months: 0.67 points

Never: 0 points

**For Q6 (linear scale):**
Score = (response/10) × 3.33

**Part 4: Infrastructure (5 questions, 4 points each)**

**For yes/no questions (Q1, Q4):**
Yes: 4 points

No: 0 points

**For linear scale questions (Q2, Q3, Q5):**
Score = (response/10) × 4

**Part 5: Transportation**

**(4 questions, 5 points each)**

**For Q1 (commute time):**
Within 10 minutes: 5 points

10-30 minutes: 4 points

30-60 minutes: 3 points

60-90 minutes: 2 points

More than 90 minutes: 1 point

**For Q2 (public transport frequency):**
Every day: 5 points

Four times a week: 4 points

Three times a week: 3 points

Two times a week: 2 points

Once a week: 1 point

Never: 0 points

**For Q3 and Q4 (yes/no):**
Yes: 5 points

No: 0 points

1. Lizana, J., Manteigas, V., Chacartegui, R., Lage, J., Becerra, J. A., Blondeau, P., Rato, R., Silva, F., Gamarra, A. R., Herrera, I., Gomes, M., Fernandez, A., Berthier, C., Gonçalves, K., Alexandre, J. L., Almeida-Silva, M., & Almeida, S. M. (2021). A methodology to empower citizens towards a low-carbon economy. The potential of schools and sustainability indicators. Journal of environmental management, 284, 112043. https://doi.org/10.1016/j.jenvman.2021.112043

2. Alhilli, H.K., Burhan, A.M. Developing a system for assessing the sustainability in school building projects. Environ Dev Sustain 23, 17483–17502 (2021). https://doi.org/10.1007/s10668-021-01397-x

3. Saraiva, T. S., Almeida, M., Bragança, L., & Barbosa, M. T. (2019). Verification of the Adequacy of the Portuguese Sustainability Assessment Tool of High School Buildings, SAHSBPT, to the Francisco de Holanda High School, Guimarães. Sustainability, 11(17), 4559. https://doi.org/10.3390/su11174559

4. Alshamrani, O. S., Galal, K., & Alkass, S. (2014b). Integrated LCA–LEED sustainability assessment model for structure and envelope systems of school buildings. Building and Environment, 80, 61–70. https://doi.org/10.1016/j.buildenv.2014.05.021

5. Black, J. L., Velazquez, C. E., Ahmadi, N., Chapman, G. E., Carten, S., Edward, J., Shulhan, S., Stephens, T., & Rojas, A. (2015). Sustainability and public health nutrition at school: assessing the integration of healthy and environmentally sustainable food initiatives in Vancouver schools. Public

## 📖 REFERENCES

health nutrition, 18(13), 2379–2391. https://doi.org/10.1017/S1368980015000531

6. Liao, C. -W., Lin, J. -H., & Chen, T. -W. (2022). Research on a Framework for Sustainable Campus Eco-Architecture Selection: Taking a Taiwan High School as an Example. Sustainability, 14(10), 6265. https://doi.org/10.3390/su14106265

7. Fehr, M., & Andrade, V. S. C. S. (2016). Search for objective environmental performance indicators of primary schools. Benchmarking an International Journal, 23(7), 1922–1936. https://doi.org/10.1108/bij-09-2015-0085

8. Huang, P. B., Yang, C., Inderawati, M. M. W., & Sukwadi, R. (2022). Using Modified Delphi Study to develop instrument for ESG Implementation: a case study at an Indonesian higher education institution. Sustainability, 14(19), 12623. https://doi.org/10.3390/su141912623

9. Findler, F., Schönherr, N., Lozano, R., & Stacherl, B. (2019). Assessing the Impacts of Higher Education Institutions on Sustainable Development—An Analysis of Tools and Indicators. Sustainability, 11(1), 59. https://doi.org/10.3390/su11010059

10. Fehr, M., & Andrade, V. S. C. S. (2016b). Search for objective environmental performance indicators of primary schools. Benchmarking an International Journal, 23(7), 1922–1936. https://doi.org/10.1108/bij-09-2015-0085

11. Gutiérrez-Mijares, M. E., Josa, I., Casanovas-Rubio, M. del M., & Aguado, A. (2023). Methods for assessing sustainability performance at higher education institutions: a review. Studies in Higher Education, 48(8), 1137–1158. https://doi.org/10.1080/03075079.2023.2185774

# 3

# SCHOOL ESG ROLE POSITIONING QUADRANT MODEL: FACILITATING ESG ROLE POSITIONING AND IMPROVEMENT FOR HONG KONG SECONDARY SCHOOLS

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## INTRODUCTION

In recent years, issues such as environment, social rights, etc. have drawn global and Hong Kong's attention to Environmental, Social, and Governance (hereinafter referred to as ESG). The Hong Kong Education Bureau has begun to formulate relevant policies, and international organizations such as the Green Climate Fund and the United Nations Global Compact have also provided support for this. As the core institution of the community, schools have potential roles and responsibilities in ESG practices. Our research questions are as follows: 1. What roles do schools undertake in ESG practices? 2. What are the factors that hinder schools from expanding more diverse ESG roles and achieving a deeper level? 3. How can schools enhance their ESG practices? Existing studies have mostly focused on the analysis of curriculum content, lacking systematic classification of schools' ESG roles and rarely analyzing policy implementation obstacles from an administrative perspective. The significance of our research is to fill the gaps in existing studies, classify schools' roles in ESG, and through interviews with principals to reveal policy implementation obstacles and the views of school administrative management on campus ESG, supplementing the administrative perspective of schools. Through role positioning, schools can understand the improvement direction of ESG practices and enhance students' ESG literacy.

## LITERATURE REVIEW

### 2.1 Available Information from Existing Literature:

In the global wave of sustainable development, how educational institutions should undertake ESG responsibilities has become a topic of common concern for both academia and policymakers. In recent years, the international community has accumulated rich experience through the construction of green schools, such as the "Green Ribbon School" in the United States, where award-winning schools adopt a three-pronged model of "curriculum - facilities - community", for instance, integrating the zero-waste plan for the cafeteria (SDG 12) with economics courses (US-DOE, 2019). All these demonstrate the successful experience of international green school construction. However, the Hong Kong government has shown its emphasis on ESG in the field of ESG education, but still has shortcomings in practice. In 2017, the "Secondary School Education Curriculum Guidelines" clearly proposed integrating the concept of sustainable development into general education, but there are still insufficient specific operation guidelines in physics, chemistry and other science courses. The elective course "Introduction to Business, Accounting and Finance" in senior high school introduces cases of green bond issuance, but the content mostly remains at the theoretical level and fails to form an effective linkage with practical links such as on-site visits to enterprises. Nevertheless, there is still a theoretical gap in existing research on the multi-dimensional role positioning of schools in the ESG ecosystem. This paper attempts to construct a systematic framework for the role of schools in ESG through reviewing international cases and local policies, in order to provide a new perspective for understanding the functional transformation of educational institutions in sustainable development.

### 2.2 Deficiencies in Existing Research:

▸ **(1) Ambiguous Role Definition:** Most studies focus on the analysis of curriculum content (The Green School Award in Hong Kong: Development and Impact in the School Sector, SDG classification), but fail to clarify the multiple roles of schools in the ESG ecosystem (such as resource integrators, and fair promoters).

▸ **(2) Lack of Administrative Perspective:** The literature relies on teacher interviews (The Green School Award in Hong Kong: Development and Impact in the School Sector, Springer Nature

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Switzerland AG 2020) and policy text analysis (The Green School Concept: Perspectives of Stakeholders from Award-Winning Green Pre-schools in Bali, Berkeley, and Hong Kong. Vol. 16, December, 2017), but lacks in-depth interviews with school principals to understand the policy implementation obstacles (such as budget allocation contradictions) that have not been raised.

**2.3 Theoretical Framework:** The aforementioned research findings indicate that although ESG education has received policy endorsement, its ambiguous role positioning and the absence of an administrative perspective remain core weaknesses. This provides an entry point for this study: Firstly, a classification framework for the roles of schools in ESG should be established; Secondly, the resource allocation contradictions in policy implementation should be revealed through interviews with school principals. Based on this, we propose the "School ESG Role Positioning Quadrant Model", and the theoretical construction and verification process will be elaborated in subsequent chapters.

## RESEARCH METHODS

We adopted a mixed research approach to explore the relationship between schools and ESG from multiple perspectives.

Firstly, we conducted a literature review to integrate and summarize some relevant Chinese and English literature on campus ESG, aiming to summarize the existing classification of the roles of schools in ESG and address the issue of ambiguous role classification.

Secondly, we carried out case studies by selecting three typical secondary schools in Hong Kong (such as PLK Ngan Po Ling College) to observe the roles these schools can play in the ESG practices of Hong Kong society and analyze their ESG plans and achievements.

Thirdly, we conducted in-depth interviews focusing on the administrative perspective to reveal the implementation obstacles that were not clearly recorded in the policies. Since the principal usually holds the highest position in the administrative management of schools, we conducted interviews with the principal of CCC Heep Woh College, Mr. Lui Hao-rong, and the principal of Elegantia College, Ms. Chen Yuyan. The interview contents mainly focused on the role cognition of Hong Kong secondary schools in ESG practices, implementation obstacles, and suggestions for improvement. We hope to gain insights into the views of the administrative management of Hong Kong schools on campus ESG and the possible difficulties in implementing ESG in schools.

The following is the list of interview questions:
▸ The importance of schools in ESG
▸ Do you agree with the three roles we summarized? They are social equity promoters, environmental action leaders, and educators.
▸ What do you think our schools have achieved in ESG?
▸ What impact do you think our schools have in ESG society?
▸ What difficulties do you think our schools have in ESG practices?
▸ Is there any willingness to promote ESG in schools? Why? Apart from the roles we have summarized, do you think there are any other roles?

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## RESEARCH FINDINGS

**4.1 Through literature analysis and in-depth interviews with the principal, we have summarized the following roles and actions that schools can undertake in ESG:**

▸ **(1) Educators:** Based on data collection and the release of the Curriculum Framework for Values Education by the Curriculum Review Council (2021), we proposed "cultivating care for society and the environment", encouraging schools to convey ESG concepts through community practices, promoting the reform of "sustainable development education", and explicitly requiring schools to integrate environmental and social responsibility issues into teaching. According to the interviews, Principal Chen provided several examples of schools as educators. In the "Excellence" program, they promote environmental protection actions during morning assembly, such as promoting the correct use of recycling bins and caring for natural ecology, etc., in an effort to enhance students' awareness in relevant areas. It can be seen that schools play the role of educators in ESG.

▸ **(2) Environmental Protection Action Leaders:** According to the article "Research on Environmental Education in Asia-Pacific" (Wong & Cheung, 2022), it is mentioned that some secondary schools in Hong Kong organize ESG-related activities. For instance, thPLK Ngan Po Ling College collaborated with environmental protection groups to organize students to design low-carbon living plans for the community. Moreover, through interviews, we learned from Principal Chen that Elegantia College organized inter-class environmental protection recycling box design competitions, leading students to use recycling boxes more frequently to recycle waste paper, thereby playing a role in protecting the environment and enhancing students' awareness of using recycling boxes. It can be seen that schools play the role of environmental protection leaders in ESG.

▸ **(3) Promoters of Social Equity:** Through the policy document of the Hong Kong Education Bureau, "Report of the Curriculum Development Council" (2021), it is clearly stated that values such as "social responsibility" and "inclusiveness" should be integrated into the curriculum, and schools are encouraged to promote social equity through activities such as community service and cross-cultural education. For instance, some secondary schools offer elective courses like "Social Innovation and Inclusiveness", requiring students to participate in grassroots social research and design solutions. Some schools, such as Elegantia College, lead students to engage in some social services, such as visiting elderly people living alone and sending heartwarming gifts during festivals to poor households, to promote social equity and ensure that disadvantaged groups also receive attention, thereby enhancing students' concern for disadvantaged groups. Schools can also assume the role of social equity promoters.

▸ **(4) User and Monitor:** The role of User and Monitor was first proposed by Principal Chen of IElegantia College during a deep interview. This is a new role that has not been mentioned in the materials and literature we have consulted. She believes that as one of the users of the ESG policy in the campus, it plays an important role in making the concepts introduced by the government more concrete. Moreover, during this process, the school can also act as a monitor to inspect the policies, to see whether the content of the policies is reasonable or whether they can truly function, and to offer opinions accordingly.

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**4.2 Factors hindering the expansion of ESG's more diverse roles or deeper involvement in schools include the following points:**
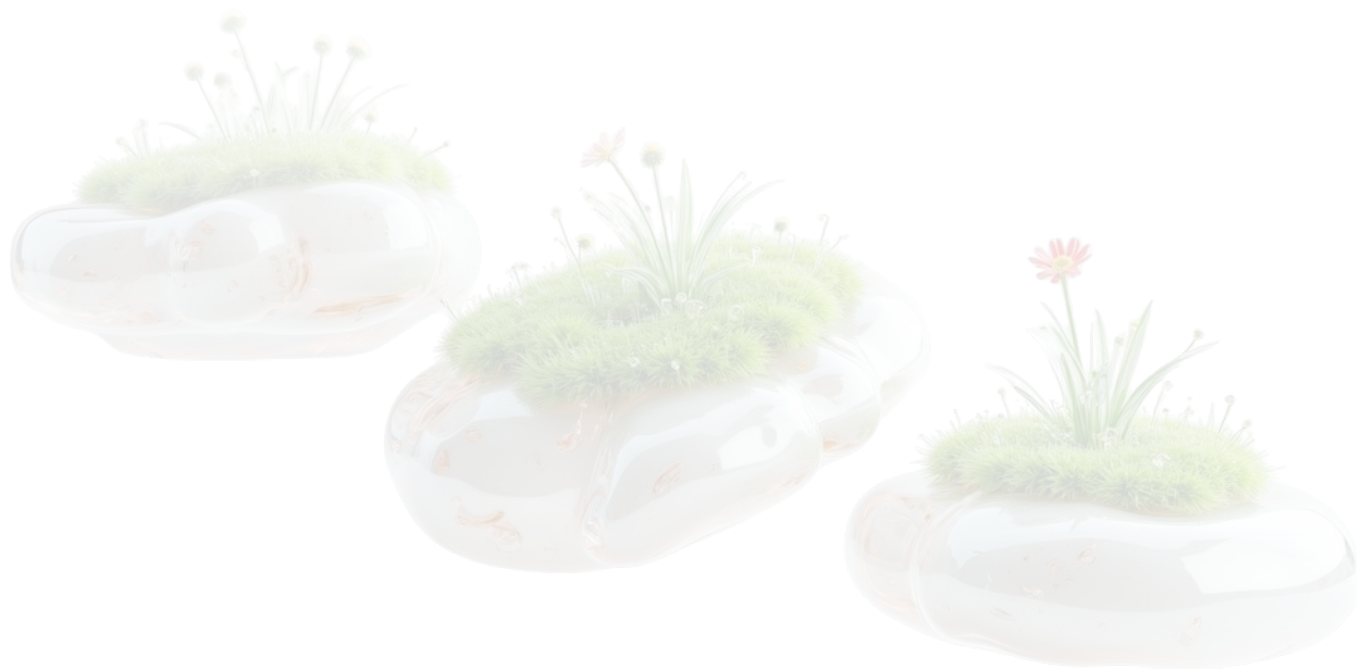
**4.2.1 Internal factors:**

▸ **(1) Insufficient school resources:** Principal Lu pointed out that the school faces difficulties in promoting ESG concepts to the community and cannot assume the role of an advocate. Due to the lack of school resources, it would be more appropriate for other government agencies to lead the community.

▸ **(2) Students' lack of cooperation:** Principal Lu believes that even if the school conducts relevant activities, if students lack determination and awareness (such as awareness of environmental protection), it will be difficult for the activities to be carried out.

**4.2.2 External Factors:**

▸ **(1) Lack of Comprehensive Policies from the Education Bureau:** We have learned that Principal Chen believes that currently the Education Bureau of Hong Kong has not yet introduced comprehensive policies to guide schools on how to implement ESG. The Education Bureau needs to provide comprehensive policies and start training students from an early stage to enhance their awareness.

▸ **(2) Poor awareness among the general public:** Principal Lu believes that the public's awareness regarding social responsibility and environmental protection is generally poor, which is not conducive to the school's practice of ESG.
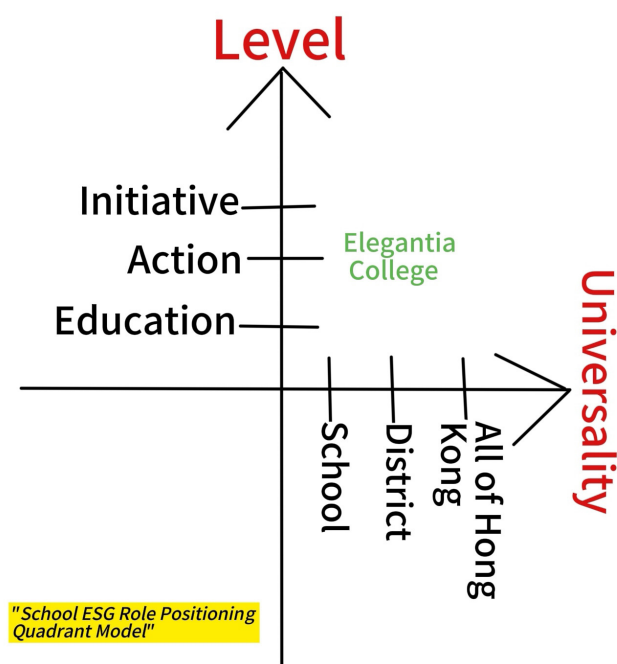
These obstacles reveal a paradox. Schools are expected to undertake multiple roles in ESG (such as those related to the Hong Kong Education Bureau's initiatives, but their resources and policy support have not been upgraded simultaneously. This contradiction needs to be explained in terms of how the quadrant model leads to the next level. The following text will specifically elab-

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orate on this case of Elegantia College.



"*School ESG Role Positioning Quadrant Model*"

## DISCUSSION

Theoretical Contribution:

We propose the "School ESG Role Positioning Quadrant Model" to improve the research framework of school ESG. With two directions as positioning, it is divided into three levels in hierarchy, namely, longitudinal levels: 1. Education 2. Action 3. Initiative. In the aspect of horizontal extensiveness: 1. School 2. North District 3. The whole Hong Kong.

**The definition of longitudinal levels:**

1. Educators: ESG knowledge transmission and values cultivation;
2. Practitioners: Execution of ESG practice projects in schools;
3. Initiators: Promotion of social policies or public education.

**The definition of horizontal extensiveness:**

1. School: Limited to internal activities within the campus
2. Region: Cross-school cooperation or community linkage
3. all of Hong Kong: Participation in policy advocacy at the regional level.

Each school can position its current ESG practice based on this model and carry out deeper research based on its own conditions. For example, the positioning of Elegantia College is at level 2 of action and the first layer of extensiveness in the horizontal aspect, namely, school. The case positioning of Elegantia College: Organized an environmental recycling box design competition → Level 2 (actioner) + Level 1 (school) of horizontal extensiveness. After positioning, personalized solutions can be addressed. For instance, through interviews, it was learned that the factors hindering schools from expanding ESG roles or going deeper into them include: the lack of complete supporting policies from the Education Bureau and insufficient school resources. Some strategic suggestions for upgrading the current positioning: School-educator (level 1 longitudinal) → School-actioner (level 2 longitudinal). We can add internal ESG practice courses in schools. For example, in the aspect of region-actioner (level 2 longitudinal) → global-initiator (level 3 longitudinal), a cross-school ESG alliance can be established to jointly propose 7 based on research findings. Based on the research findings, we further test the explanatory power and value of the quadrant model. In terms of longitudinal levels, the "actioner" positioning of Elegantia College confirms how resource limitations inhibit the entry of roles into the next level. This model not only provides a diagnostic tool for the current situation of schools but also suggests what schools should do to break through obstacles to enter the next stage.

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# CONCLUSION & RECOMMENDATIONS & LIMITATIONS

Conclusion: This study has drawn three main conclusions through empirical analysis, addressing the research questions in the introduction one by one: 1. Schools can undertake four types of ESG roles, namely educators, practitioners, etc., and their diversity far exceeds the understanding in existing literature; 2. Resources, institutions, and awareness are the main obstacles to the diversification of roles and their deeper engagement; 3. The quadrant model provides a reference for stratified breakthroughs of these obstacles.

Schools undertake diverse roles in ESG, but are constrained by resource and institutional barriers. In light of the above summarized issues, we propose the following recommendations:

Recommendation 1: Schools should enhance their awareness of ESG and establish clear roles for educators and practitioners.

Recommendation 2: Schools should improve their institutional frameworks to facilitate the diversification of roles and deeper engagement.

Recommendation 3: Schools should allocate sufficient resources to support the implementation of ESG and address institutional barriers.

Recommendation 4: Schools should collaborate with relevant stakeholders to promote the integration of ESG into their operations and decision-making processes.

Suggestions:
1. In terms of policies, provide special grants to schools to address the issue that schools lack sufficient resources to support the implementation of ESG. Additionally, establish a special incentive mechanism and award prizes to schools that excel in the practice of ESG to motivate them.

2. At the school level, schools should offer more experiential courses, such as community research, to enable students to gain a deeper understanding of society and enhance their awareness related to ESG.

Limitations: The sample is limited (only from Hong Kong secondary schools), and it can be expanded to cover the Greater Bay Area or international comparisons in the future. Moreover, we only interviewed two principals, resulting in a small sample size and failure to cover different types of schools (such as public, private, and schools in different regions).

# REFERENCES

1. Wong, T. K. Y., & Cheung, L. T. O. (2022). 《亚太环境教育研究》Asia-Pacific Environmental Education Research. 香港环境教育学会.

2. 香港课程发展议会. (2021). 《价值观教育课程架构》Values Education Curriculum Framework. 香港特别行政区政府教育局. https://www.edb.gov.hk

3. 香港课程发展议会. (2021). 《课程发展议会报告》Curriculum Development Council Report. 香港特别行政区政府教育局.

4. Lee, J. C. K., & Efird, R. (2019). The Green School Award in Hong Kong: Development and Impact in the School Sector. *International Journal of Sustainability in Higher Education*, 20(5), 787–802. https://doi.org/10.1108/IJSHE-08-2018-0145

5. Poon, D. C. H., & Wong, K. K. (2017). The Green School Concept: Perspectives of Stakeholders from Award-Winning Green Preschools in Bali, Berkeley, and Hong Kong. *Journal of Sustainability Education*, 16(1), 1–18. ISSN: 2151-7452.

6. Cheng, N. Y. I., & So, W. W. M. (2016). Practicing the Integration of Education for Sustainable Development (ESD) into the School Curriculum: The Hong Kong Experience. *Sustainability*, 8(10), 1056. https://doi.org/10.3390/su8101056

7. Lee, F. L. T., & Leung, S. W. (2022). Liberal Studies Reform and Sustainability Consciousness in Hong Kong Tertiary Education. In *Education for Sustainable Development in the Postcolonial World* (pp. 123–145). Springer. https://doi.org/10.1007/978-3-031-09119-4_7

8. Lee, J. C. K., & Williams, M. (2015). Education for Sustainable Development in Hong Kong: A Review of UNESCO Hong Kong's Experimental Schools. *International Journal of Public Administration*, 38(12), 923–933. https://doi.org/10.1080/01900692.2014.949754

9. Poon, D. C. H. (2018). Characteristics of Green Schools: Observations of Award-winning Green Preschools in Bali, Berkeley, and Hong Kong. *Journal of Education for Sustainable Development*, 12(2), 140–159. https://doi.org/10.1177/0973408218783287

10. Lei, H., & Tang, K. H. (2023). An Analysis of Hong Kong High School Curriculum with Implications for United Nations Sustainable Development Goals. *Smart Learning Environments*, 10(1), 47. https://doi.org/10.1186/s40561-023-00267-5

11. Lo, K. J., & Li, C. S. (2019). Sustainable Development and Green Education in Mainland China, Taiwan, and Hong Kong. *International Journal of Pluralism and Economics Education*, 10(1), 78–92. https://doi.org/10.1504/IJPEE.2019.100200

# 4 THROUGH THE EYES OF MAINLAND CHINESE STUDENTS: PRACTICAL INITIATIVES TO PROMOTE INTEGRATION IN HONG KONG LOCAL SCHOOLS

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## ABSTRACT

The growing number of mainland Chinese students in Hong Kong has made profound impacts on the education landscape of the city, and it challenges both mainland students and local teachers and students alike to deal with problems such as language barriers, academic contrasts between the mainland and Hong Kong, and social integration with local students. This research aims to determine what measures can be taken to support mainland students to adapt and thrive in this new environment. We will also evaluate the effectiveness of the Hong Kong government's policies in helping new immigrant high school students from mainland China to integrate into Hong Kong society. Through in-depth analysis of literature on this topic and interviews with five students from the mainland, we found that government policies should be more accessible to students, and that programmes should focus on long-term Cantonese acquisition, developing their skill in the English language for students in English secondary schools, and providing a multiperspective of the infamous work environment of Hong Kong for their future beyond education.

## INTRODUCTION

The influx of newly arrived students from mainland China to Hong Kong has been a longstanding and significant phenomenon, with implications for the city's education system and social integration. According to the latest Education Bureau statistics, the number of secondary-level mainland students enrolling in Hong Kong schools has nearly returned to pre-pandemic levels, reaching 2,471 in the 2024/25 academic year("本學年新來港中小學生人數逾 7000人 按年升 4%"). This highlights the pressing need to closely examine the support measures in place to facilitate the adaptation and inclusion of this student population.

In this paragraph, we are introducing why the mainland students and the locals may be different, which causes cultural differences, even though they are both Chinese, by reviewing the history of Hong Kong. The relationship between Hong Kong and mainland China is complex and rooted in the city's unique history. Since the ceding of Hong Kong Island to Britain in 1842 following the First Opium War, Western influences have significantly shaped the development of Hong Kong's distinct Chinese-Western hybrid culture, setting it apart from the sociopolitical and economic trajectory of the mainland. Even after the 1997 handover, when Hong Kong was reunited with China under the "one country, two systems" principle, the city has maintained its capitalist system and autonomous governance framework through the Basic Law.

The number of these new-arrival students has risen significantly, from 5,856 in 1989 to 20,132 in 1999 (Census and Statistics Department), in the aftermath of the handover. As these mainland students navigate the cultural, linguistic, and educational differences between their home context and the Hong Kong environment, they face a myriad of challenges that warrant close examination.

It is in this context that the Hong Kong government has implemented various support measures and policies to assist mainland students in integrating into local schools.

However, the effectiveness of these initiatives remains an important area of inquiry. This research paper aims to critically evaluate the government's efforts in this regard and provide recommendations for enhancing the support provided to newly arrived secondary school students from the mainland.

In the following sections, this paper will discuss the existing literature on the integration of mainland Chinese students in local schools and what policies are present to guide their adaptation. Moreover, the methodology for our data will be elaborated followed by the interview findings. Fi-

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nally, the discussion on results and proposed procedures for the government will be presented in further detail, and the report will be concluded at the end.

# LITERATURE REVIEW

The existing research on mainland Chinese students in Hong Kong has covered a diverse range of perspectives and educational levels. At the tertiary and secondary levels, studies have delved into the adaptation challenges faced by these students, identifying several recurring themes.

Language barriers have consistently emerged as a major obstacle, with mainland students struggling to navigate the Cantonese-dominant environment and the prevalence of English-medium instruction at Hong Kong secondary schools and universities (Yu & Zhang, 2016; Xu, 2015; Hue, 2008). A past literature, "The Educational Progress of Mainland Chinese Immigrant Students in Hong Kong" found that the mainland Chinese in junior secondary have a large negative achievement gap in English with native students, while in other subjects, are mainly a positive achievement gap (Pong & Tsang, 2010), which shows that English is a great challenge for newly-arrived mainland students. Beyond the linguistic divide, cultural differences have also been a significant challenge. The blending of Chinese and colonial influences in Hong Kong's culture, as well as divergent educational practices, leaves many mainland students feeling disconnected and unable to fully integrate (Xu, 2015; Hue, 2008).

Interestingly, the literature also highlights the mainland students' struggles with identity formation, as they navigate the complex terrain between their roots in mainland China and the distinct Hong Kong context. In the research paper "Identity and cross-border student mobility: The mainland China–Hong Kong experience", Xu (2015) notes that some of the mainland student participants in the study frequently made comments about their "Xiao Dian" (humorous points or cultural references) being different from, and their lack of shared childhood memories with, the local Hong Kong students - such as favorite cartoons, foods, and other cultural touchstones. This cultural disconnect not only affected the content of their present-day conversations but also left the mainland students feeling like perpetual outsiders.

As one participant poignantly stated, "In Hong Kong, no matter what and how hard I try to adapt to it, I am not locally born and bred; I am forever an outsider" (Xu, 2015). This sense of displacement and inability to fully integrate into the local Hong Kong culture and community led to significant challenges in developing a strong sense of belonging for these mainland students. The stark differences in their cultural upbringings and lived experiences, compared to their Hong Kong peers, created an ongoing struggle with identity formation as they oscillated between their roots in mainland China and the distinct socio-cultural environment of Hong Kong. This multifaceted identity crisis represents a key obstacle faced by mainland students seeking to adapt to life and education in the Hong Kong context..

Additionally, while past studies have examined the broader political and ideological tensions between Hong Kong and mainland China, and how these shape the mainland students' sense of identity and belonging (Xu, 2015), the specific role of government policies and initiatives aimed at facilitating the integration of these new-arrival students remains underexplored (Li, 2010).

In summary, the existing literature has laid a solid foundation for understanding the multifaceted challenges faced by mainland Chinese students in Hong Kong's education system. Despite most of the studies being at the university level, the comparison is meaningful, as the students are at a similar developmental stage, and the original cultural and language practices for both the mainland undergraduates and secondary school students should be similar. However, further research is needed to expand more focus to the secondary school context, as well as to critically examine the government's efforts to support the adaptation and integration of these students. Such an approach could yield important new perspectives on this complex and evolving phenomenon.

**Government Policies**
According to the Education Bureau, there are mainly three measures provided to support the newly-arrived students in Hong Kong, which include mainland students.

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1. **Induction Programme**

   The Induction program is a 60-hour program run by NGOs and subsidized by EDB. There will be 10-15 students in each class. The curriculum includes social adaptation, basic learning skills, personal development, and civic education.

2. **Initiation Programme**

   The initiation program is a 6-month programme. Newly arrived students can apply to this program before entering local schools. One secondary school provides this course for mainland secondary school students. English Language, Chinese Language, learning skills, personal development, social adaptation, Arts, and PE are included in this program.

3. **School-Based Support Scheme (SBSS) Grant**

   It is a subsidy by the EDB to schools to arrange school-based support for newly-arrived students. Each student can have $6136 at the secondary level annually. The program required schools to use not less than 50% for mainland students to learn English and 30% for social adaptation and personal development. The subsidy is open to schools to apply by themselves. Students attempting the Initiation Programme cannot join this scheme. In the school year of 2022/23, 468 schools joined, and 3950 students used it. Participant schools are required to show their effectiveness in the school's annual report.

**Evaluation of the policies**

The three-pronged approach of these programs is indeed a key strength, as they collectively address the academic, personal, and social needs of newly-arrived students, including those from mainland China. This holistic support is crucial for facilitating their successful adaptation and integration into the Hong Kong education system and society.

Additionally, the flexibility granted to schools to independently apply for the SBSS Grant and tailor support programs allows for contextual responsiveness to the specific needs and challenges faced by their unique student populations. This contextualized approach is likely more effective than a one-size-fits-all model.

However, the fact that students cannot partici-

pate in both the Initiation Program and the SBSS Grant simultaneously may limit the comprehensiveness of the support available to some individuals. Streamlining access to these complementary programs could enhance the overall holistic nature of the support measures.

The requirement for schools to report on program effectiveness is a positive step, but more robust and centralized monitoring and evaluation mechanisms could help identify best practices and areas for refinement across the education system. This could involve the establishment of clear performance indicators, data collection protocols, and knowledge-sharing platforms to facilitate cross-school learning.

Additionally, while the current programs focus on academic, personal, and social adaptation, they may not adequately address the deeper, more systemic issues of cultural integration, identity formation, and sense of belonging that many mainland students often face in Hong Kong. Expanding the scope of these initiatives to tackle these complex socio-cultural challenges could further strengthen their impact.

**Compared to other countries**

While Hong Kong's three-tiered policy framework—including the Induction Programme, Initiation Programme, and the School-Based Support Scheme (SBSS)—offers structured and targeted support for newly arrived mainland students, comparing these efforts with similar educational policies in other jurisdictions is valuable. In particular, the United States, the United Kingdom, and Singapore have adopted distinctive models for integrating immigrant or non-local students into their school systems. Each reflects different national priorities and administrative structures but offers insights into how student integration can be approached holistically.

▸ **United States**

  The United States supports newly arrived immigrant students primarily through decentralized programs implemented at the district or school level. One of the most widespread initiatives is the Newcomer Program, a model of temporary placement for immigrant students who are new to the English language and American school culture. These programs typically last one year and focus on intensive English language learn-

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ing, cultural orientation, and social-emotional development. In addition, the Newcomer Toolkit, published by the U.S. Department of Education, provides comprehensive guidance to educators, outlining best practices for instruction, family engagement, and trauma-informed support for newcomer students.

Unlike Hong Kong's centralized structure, U.S. education policy delegates authority to states and districts. Funding for English language learner (ELL) support, including newcomer programs, is delivered through Title III of the Every Student Succeeds Act (ESSA). This financial support allows for program development, bilingual instructional materials, professional training for teachers, and family outreach. However, because implementation varies by locality, the quality and availability of services differ widely. While Hong Kong's approach is more uniform and policy-driven, the U.S. model offers greater adaptability and responsiveness to local needs.

▶ **United Kingdom**
In the United Kingdom, there is no specific national program equivalent to Hong Kong's Initiation or Induction Programmes. Instead, support for newly arrived students is provided through English as an Additional Language (EAL) services within mainstream schools. Newly arrived students are directly integrated into regular classes, with additional support such as targeted English lessons, peer buddy systems, and differentiated instruction provided as needed. Schools often assign trained EAL specialists or classroom assistants to work with these students on both language and content mastery.

Historically, support for ethnic minorities and EAL students was funded through dedicated grants (e.g., the Ethnic Minority Achievement Grant), but these have since been absorbed into general school funding. As a result, provision now depends heavily on local authority priorities and the resources of individual schools. This creates potential disparities in support. Compared to Hong Kong, where the SBSS Grant provides a clear financial mechanism tied to the presence of newly arrived students, the UK's system is more integrated but less consistently resourced. Still, the UK model's strength

lies in its emphasis on inclusive school culture and rapid immersion, which may promote earlier social integration than Hong Kong's more transitional model.

▶ **Singapore**
Singapore adopts a notably different approach. There are no dedicated national programs for newly arrived immigrant students; instead, the focus is on integrating all students, including international and returning Singaporeans, into mainstream schools immediately following language and academic screening. Foreign students are required to pass the Admissions Exercise for International Students (AEIS), which assesses their English and Mathematics proficiency. This ensures they can manage the demands of the local curriculum.

Once admitted, students receive general orientation through school-organized activities such as welcome weeks and peer mentoring. The country's bilingual education policy also facilitates smoother transitions for Chinese mainland students, as they continue learning Mandarin as a Mother Tongue Language, while studying other subjects in English. This contrasts with the Hong Kong model, where many mainland students face additional hurdles adjusting to Cantonese and traditional Chinese characters. While Singapore does not provide specific funding or remedial programs like Hong Kong's SBSS, its rigorous admissions standards and bilingual infrastructure serve to integrate new students efficiently within the existing system. The absence of targeted support may be a challenge for students with limited English proficiency; however, this makes the system less flexible than Hong Kong's one.

**Synthesis and Implications**
These international examples illustrate a spectrum of support mechanisms for non-local students. Hong Kong's strength lies in its structured transitional programming, with separate pre-en-

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| Aspect | Hong Kong | United States | United Kingdom | Singapore |
|---|---|---|---|---|
| Program Structure | Tiered (Induction, Initiation, SBSS) | Decentralized (federal, state, local initiatives) | Evolving (school-level and higher education support) | Integrated within national education framework |
| Language Support | Emphasis on English and Chinese | ESL programs across various levels | EAL support in schools | English proficiency programs |
| Pre-Schooling Programs | Yes (Initiation Programme) | Varies by state and district | Limited, some orientation programs | Orientation programs in schools |
| Financial Support | SBSS Grant to schools | State-level tuition policies for refugees | Tuition fee reductions and scholarships for refugees | Limited, varies by institution |
| Integration Focus | Social adaptation and personal development | Community and school-based integration | Trauma-informed teaching and cultural awareness | Emphasis on bilingualism and cultural integration |

rollment (Initiation) and post-enrollment (Induction) pathways, as well as direct financial support to schools. The United States emphasizes local innovation and federally funded support, which can generate customized, high-impact programming where resources allow. The United Kingdom promotes rapid inclusion into mainstream schooling, underpinned by cultural sensitivity and flexible in-class assistance. Singapore relies on screening and general orientation, leveraging its standardized bilingual model rather than specific immigrant-focused interventions.

Taken together, these models suggest several possible enhancements to Hong Kong's policies:

▸ Improving awareness and accessibilityof programs, as seen in U.S. school-family outreach strategies.

▸ Embedding integration efforts into everyday school culture, in the way UK schools use peer support and inclusive practices.

Ultimately, while Hong Kong provides one of the most structured approaches to newcomer integration in East Asia (compared with Singapore's policies), there is room for greater flexibility, better outreach, and deeper cultural inclusion.

## METHODOLOGY

Several thirty-minute in-depth interviews were conducted with five ethnically Chinese subjects from mainland China from ages 15-17. Interview questions focused on their social and academic outlooks and career planning in Hong Kong. In addition to focusing on their challenges in the previous aspects, we also asked them how they felt about coming to Hong Kong, their shock about the culture, and how well they knew about the government policies that helped them. Moreover, we will confirm by evaluating the significance of their struggles whether or not the government policies and programmes are enough to assist students in developing their confidence in academic subjects and social integration.

In-depth interviews provide a more detailed analysis of a participant's needs and problems. Due to the restricted number of participants and the differences of each school, focusing on how government policies affect their development in Hong Kong, we can get a more balanced result and an effective way of measuring the limitations and benefits of them.

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# FINDINGS

This study explored the experiences of mainland secondary school students in Hong Kong's local schools. In the following findings, the participants are from local secondary schools, studying in forms 2-4, and have been in Hong Kong for about 6 months. They are not proficient in Cantonese, and the interviews found them to be navigating their lives in their schools.

In the in-depth interviews, the participants were asked questions and discussed their challenges in social and academic aspects, future plans for their education and career, and how they feel about the culture of Hong Kong. In the following findings, they would be identified as participants A, B, C, D. Participants A, B, and C have come to Hong Kong for 6 months, having lived in Hong Kong since the first 2024/2025 academic year.

An overarching reflection from all participants is how they felt when they first came to Hong Kong for their education. Many approached with curiosity about the nature of their new environment with their presumptions. One participant said, "I felt curious, nervous, optimistic when I first came to Hong Kong for school." Although some felt scared and anxious, there were emotions of joy and wonder about what opportunities their new life could bring them, with one participant saying that they felt "scared, stressed, and anxious."

A recurring theme across interviews was the challenges some students faced with English-moderated lessons, which profoundly affected their performance in their academic subjects. While participants generally reported positive social integration, academic challenges related to language emerged as a significant concern. Participant A, from Senior form, articulated this concern, reporting that "it was especially difficult to learn Biology in English given their challenging keywords". This suggests that the demand for English-language communication in academic settings can present a barrier to demonstrating knowledge in STEM fields. Participant B further highlights the need for support in English, stating that in Junior form, the subject Integrated Humanities is discouraging to understand due to the level of English proficiency needed to understand humanities subjects.

On the other hand, a different reflection comes from participant C, detailing the challenges they faced in the Chinese subject in senior form. The struggle comes from the language barrier between Cantonese and Mandarin. Having only studied Chinese in Mandarin before, Participant C finds their lessons to be hard to follow. Additionally, the texts are in traditional Chinese, making it time-consuming for them to read.

In many secondary schools, the language of instruction is English. In mainland public schools, which is where a lot of the students come from, the dominant language is Mandarin, or Putonghua. This then points to a potential need for greater support and access to resources for students navigating the academic demands of an English-speaking and Cantonese-speaking environment.

Exploring the social aspect of secondary education, participants A and B expressed positive attitudes about their social life. Classmates were either fluent in Putonghua or put in a lot of effort in communicating with them in this language. However, both were met with culture shock, such as some elements of etiquette in Hong Kong that they had to follow. Particularly, photography in the classroom is strictly prohibited in the classroom without the teacher's permission.

However, struggles do exist with not being able to speak or understand Cantonese fluently. Talking to teachers and classmates is difficult for participant C because they "can't speak Cantonese that well". Although study sessions on Cantonese would be assigned for them with a teacher to learn a few phrases from everyday conversations. A third theme explored is the participants' future plans to stay in Hong Kong. Despite positive attitudes towards the education they would receive in Hong Kong, a common response from the participants points not to a permanent career in Hong Kong. Participant A says that it is ideal for them to work in the Greater Bay Area, including Hong Kong, and not stay in one place for work after their tertiary education. Conversely, participant B points out that the working environment is "too stressful" as Hong Kong is known for having a quick pace of life and an imbalance of work and life. On the other hand, participant D, who has stayed in Hong Kong for 4 years, expresses an interest in staying for their career, saying the reason is, "a well-established set of friends here and he believes experience gained here will indeed help him in his future".

This calls for more extensive support not only in education but in life planning and guidance towards a career in Hong Kong. While the Education Bureau (EDB) of Hong Kong strongly advocates for the integration of Life Planning Education (LPE) and career guidance within secondary schools, these initiatives are not mandated by statutory requirements. The EDB's "Guide on Life Planning Education and Career Guidance for Secondary Schools" emphasizes the importance of incorporating life planning into school development plans and appointing dedicated personnel to oversee career guidance programs (Education Bureau, 2014). Additionally, the "Framework of Implementation Strategies for Life Planning Education" provides schools with suggested strategies to effectively deliver LPE (Education Bureau, 2021).

However, according to the legislative council document about career planning education, there is no specific measure for mainland students to know more about the Hong Kong working environment, while other non-Chinese-speaking students have special support on that (LegCo, 2023). The situation that mainland students are in is similar to that of non-Chinese speakers. They were not born here; the working environment in the mainland, especially in some less developed cities, is different from Hong Kong. It is not uncommon for them to be unfamiliar with the working environment in Hong Kong. Also, career planning is not listed in the curriculum of the three supporting policies. The misunderstanding of the work environment (the stressful, long work hours of Hong Kong) in Hong Kong needs to be addressed in future programmes by offering a diverse view of career opportunities in Hong Kong and explorations of what it is like to work in Hong Kong.

Furthermore, on the aspect of how the government policies assist them to integrate into their new environment, participants report limited knowledge of these existing policies. For participant A, the government has strongly encouraged mainland students to study in Hong Kong. This is already shown in government policies to provide scholarships to non-local students in tertiary education, and similar policies are shown in primary to secondary education. The growing admission of mainland students is prompted by the record-low birth rate of Hong Kong (Research Office, Legislative Council Secretariat 1). According to the participant, the government also supports them with social workers who provide sessions of cultural integration and Cantonese classes. Moreover, simplified Chinese is provided in Chinese exams, such as the Hong Kong Diploma of Secondary Education Exam. For the par-

ticipants, these procedures are very effective in helping them because they provide them with the medium in which they are most fluent.

However, not all participants know about these resources based on their interviews. For the other participants, a lack of knowledge and awareness about such government policies, such as the Induction programme and Initiation programme, persists. Based on the interview results, they are relatively less integrated socially and academically.

## DISCUSSION

This study set out to evaluate how effectively Hong Kong's government policies support the integration of newly arrived secondary school students from mainland China. While existing research has provided rich insight into the adaptation of tertiary-level mainland students (Xu, 2015; Yu & Zhang, 2016), very few studies have focused specifically on secondary school students, even though they are in a similarly critical developmental stage. In addition, prior studies have paid more attention to students' social and cultural challenges than to the effectiveness of government programmes in addressing them (Li, 2010). This study addresses both gaps by foregrounding the voices of secondary students through in-depth interviews and directly evaluating how well current policies meet their academic, social, and long-term development needs.

The results show that the challenges faced by mainland students are developed in three main streams: the academic, social, and future career planning. After reviewing their elaboration on their struggles, it seems evident that the policies adopted by the government of Hong Kong are inadequate to support their adaptation and development in a Cantonese-speaking environment. Therefore, more policies and programmes on language acquisition, cultural integration, and academic support should be provided and made aware, as well as accessible to incoming students from the mainland.

During the in-depth interviews conducted with 5 participants from Hong Kong secondary schools, diverse answers were gathered and gave fascinating perspectives from these students from the mainland.

Socially, the findings show mixed levels of success in integration. Some students (e.g., Participants A and B) reported positive interactions with peers who made efforts to communicate in Putonghua, which helped them feel welcomed. However, others experienced exclusion or bullying, as in the case of Participant D, who described being a "target" of teasing due to limited Cantonese proficiency. These diverging experiences reveal that while some schools may offer inclusive environments organically, others may lack systematic efforts to facilitate peer acceptance and cultural understanding.

This reflects earlier studies on cultural alienation, such as Xu (2015), who highlighted the deep sense of "outsiderness" many mainland students feel due to differences in humour, social references, and life experience. However, this study goes further by linking students' social struggles to gaps in existing programmes. While the Induction and Initiation Programmes include modules on "social adaptation," they often focus on surface-level information—such as rules and etiquette—rather than tackling deeper issues of identity formation, mutual understanding, and emotional wellbeing. This study thus offers a new contribution: it calls attention to the emotional and interpersonal dimensions of integration and suggests that cultural orientation should go beyond basic adjustment and foster a stronger sense of belonging.

One of the most underexplored areas in the literature is how government policy supports the long-term development of newly arrived students, particularly in terms of career planning. This study finds that while participants generally saw educational opportunities in Hong Kong as valuable, most did not envision a long-term future in the city. Some (e.g., Participants B and D) described the Hong Kong work culture as "too stressful," while others felt uninformed about local career pathways.

This perception gap points to a significant policy blind spot. Currently, Hong Kong's integration policies for new arrivals focus on early-stage adaptation—language acquisition and classroom engagement—but lack forward-looking components that help students envision and prepare for life after graduation. This is particularly concerning given the government's strategic push to attract more students from the mainland in response to demographic decline. Without ca-

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reer education and workplace exposure tailored to mainland students, who may lack family networks or cultural capital in Hong Kong, the city risks losing the very talent it seeks to retain.

In this respect, our study bridges the gap in existing research by highlighting the link between educational integration and career intentions, and by emphasizing that support should be sustained beyond initial schooling. Participants' feedback suggests a need for career guidance workshops, mentorship by professionals with similar backgrounds, and exposure to Hong Kong's job market and work culture early in secondary school.

After considering these aspects, we decided on how the government could improve its policies and programmes.

Academically, to raise the standard of education for students from the mainland, support in Cantonese and English is needed. In practice, sessions may be conducted regularly within a period of time to build students' fundamentals of the languages. While the existing policies assist students by teaching them Cantonese phrases and life skills, the new programmes should aim more at building their skills in the subject areas so that their fundamentals may match the academic backgrounds of local students.

For a smoother transition in a new social environment, governments could direct funds into spreading the awareness of the struggles that students from the mainland face, as well as information about the diverse culture of the mainland, to improve understanding of these non-local students. Classes may be conducted by social workers on the mainland culture and its education system. For understanding the struggles of students from the mainland, their interviews may be featured in an educational video to spread awareness of their perspectives.

The government should let them know more about the details of working in Hong Kong. The government can implement special support, similar to that for non-Chinese speakers, to let mainland students become more familiar with the Hong Kong workforce. Whether they still think Hong Kong's working environment is stressful and leave, or they choose to stay after knowing more about the working environment, may be the next step of our discussion, but first, they have to know more about it, and the government should take

up this responsibility. Therefore, we consider that the support for career planning for mainland students may not be enough.

Overall, the government of Hong Kong is strongly recommended to improve its policies and programmes for mainland students, not only to help them integrate into a new environment and allow for a wiser and more comprehensive understanding between the diverse cultures. Moreover, promotion of these programmes to students from the mainland should be made aware through social media platforms such as Xiao Hong Shu, providing leaflets in schools, and the Immigration Department. This will increase the number of participants, help existing students integrate successfully, and attract future students from the mainland to study in Hong Kong.

With the recommendations we have proposed, we hope that government policies can more accurately respond to the actual needs of newly arrived mainland students. First, by increasing the promotion and visibility of existing support programmes, more students and their families will be aware of and able to access resources such as the Induction Programme, Initiation Programme, and SBSS Grant. This can facilitate smoother integration into both school life and wider society. Second, providing targeted Cantonese and English language support with a stronger focus on academic usage will help narrow the learning gap between local and mainland students, particularly in language-dependent subjects such as Chinese, English, and Humanities. Furthermore, by raising awareness among local students about the challenges faced by their mainland peers, schools can cultivate greater empathy and foster a more inclusive environment. Such mutual understanding can reduce social barriers and promote meaningful peer relationships, which are essential for building a sense of belonging. Additionally, enhancing access to career planning and life guidance for mainland students will help ensure that all students, regardless of origin, receive equal preparation for their future. This can support fairer long-term educational and employment outcomes. If these students can envision and pursue a future in Hong Kong, they may choose to work and settle here, contributing to a more diverse and globally oriented society. By strengthening integration policies and ensuring resources are effectively utilized and equita-

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bly distributed, the government can help schools become more inclusive environments. Ultimately, these efforts can contribute not only to individual student success but also to the development of a more cohesive, multicultural Hong Kong.

# CONCLUSION

This study set out to evaluate the effectiveness of Hong Kong's government policies in supporting newly arrived mainland secondary school students and to explore their academic, social, and career integration experiences in local schools. By analyzing existing literature and conducting in-depth interviews with five mainland students, the research aimed to address a clear gap: the lack of empirical focus on secondary-level newcomers and limited evaluation of how current support measures translate into lived experiences.

The findings reveal that while Hong Kong has implemented a relatively structured and comprehensive policy framework, including the Induction Programme, Initiation Programme, and the SBSS Grant, these measures have limited reach and uneven visibility among students. In the academic domain, students reported persistent challenges with English and Cantonese, particularly in content-heavy subjects such as Biology and Chinese language, where linguistic and script differences (traditional vs simplified) hinder comprehension and performance. Despite the existence of language support initiatives, some students were unaware of available programmes or found them inaccessible, pointing to shortcomings in policy promotion and continuity.

Socially, the integration experience was mixed. Some students benefited from friendly peers and informal support, while others faced isolation, communication barriers, or even bullying. This highlights the need for deeper cultural integration efforts beyond basic civic education or etiquette training—ones that address identity, belonging, and mutual understanding within the school environment.

Most significantly, the study identifies a major policy gap in career planning support. Participants often expressed uncertainty about staying in Hong Kong long-term, citing limited information about local work culture and career pathways.

Existing government programmes focus heavily on short-term academic and social adjustment, with little structured guidance for future planning, despite growing policy interest in attracting and retaining non-local students. This gap, documented in Legislative Council reports, leaves newly arrived mainland students without the tools to make informed decisions about their long-term futures in the city.

In bridging these gaps, the study makes several contributions. It shifts attention to the secondary school level, offering a timely perspective on how government policies affect younger students at an earlier and more formative stage. It also moves beyond surface-level observations to critically assess how and why existing measures fall short, and where improvements can be made. As Hong Kong continues to admit rising numbers of mainland students, a more coherent, sustained, and visible integration strategy—one that includes academic support, emotional inclusion, and career guidance—is essential to ensure that these students can truly thrive, not just adapt.

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# 📖 BIBIOLOGRAPHY

[1] 本學年新來港中小學生人數逾7000人按年升4%.
www.hkcna.hk/h5/docDetail.jsp?id=100979240&channel=5523#:~:text=2024%E8%87%B32025%E5%AD%B8%E5%B9%B4%EF%BC%8C%E9%A6%96%E6%AC%A1,%E4%BA%A6%E6%B8%9B%E5%B0%91%E8%87%B3596%E4%B-A%BA%E3%80%82.

[2] 教育署統計組. "The Characteristics of Children From the Mainland Newly Admitted to Schools in Hong Kong." Hong Kong Monthly Digest of Statistics, Aug. 2000,
www.censtatd.gov.hk/en/data/stat_report/product/FA100243/att/B70008FA2000XXXXB0100.pdf.

[3] Hue, Ming-Tak. "Cross-cultural Experiences of Immigrant Students From Mainland China in Hong Kong Secondary Schools." Ethnography & Education, vol. 3, no. 3, Aug. 2008, pp. 229–42, doi:10.1080/17457820802305469.

[4] Li, Mei. "Mainland Chinese Students in Hong Kong and Macau." International Higher Education, no. 46, Mar. 2015, doi:10.6017/ihe.2007.46.7944.

[5] Xu, Cora Lingling. "Identity and Cross-border Student Mobility: The Mainland China–Hong Kong Experience." European Educational Research Journal, vol. 14, no. 1, Jan. 2015, pp. 65–73, doi:10.1177/1474904114565155.

[6] Career Guidance Section, School Development Division, Education Bureau. Guide on Life Planning Education and Career Guidance for Secondary Schools. 1st ed., May 2014.

[7] Education Bureau (EDB). Information Note on the Framework of Implementation Strategies for Life Planning Education at Schools (2nd Edition). 2nd ed., lifeplanning.edb.
gov.hk/uploads/page/attachments/Info%20Note%20on%20Framework_0609 2021%20%28EN-Final%29.pdf.

[8] Pong, Suet-Ling, and Wing Kwong Tsang. "The Educational Progress of Mainland Chinese Immigrant Students in Hong Kong." Research in sociology of education, 2010, pp. 201–30, doi:10.1108/s1479-3539(2010)0000017010.

[9] "When the Hong Kong Dream Meets the Anti-Mainlandisation Discourse: Mainland Chinese Students in Hong Kong." Journal of Current Chinese Affairs, vol. 44, no. 3, Sept. 2015, pp. 15–47, doi:10.1177/186810261504400302.

[10] Yu, Baohua, and Kun Zhang. "`It's More Foreign Than a Foreign Country': Adaptation And Experience of Mainland Chinese Students in Hong Kong." Tertiary Education and Management, vol. 22, no. 4, Aug. 2016, pp. 300–15, doi:10.1080/13583883.2016.1226944.

[11] U.S. Department of Education. Newcomer Tool Kit. 2016,
www2.ed.gov/about/offices/list/oela/newcomers-toolkit/ncomertoolkit.pdf.

[12] 立法會教育事務委員會.生涯規劃教育的推行情況.June 2023.

# 5 HOW ENVIRONMENTAL ACTIVITIES IMPACT ON HIGHSCHOOL STUDENTS ENVIRONMENTAL AWARENESS

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## Abstract

Environmental awareness has become a significant aspect of education. Hence, environmental activities were held for students to participate. However, it is unclear how environmental activities impact on students' environmental awareness. This study was based on a few distinct researches and utilised a quantitative survey conducted with 72 high school students from different secondary schools in Hong Kong about their participation, experience, preferences, considerations on environmental activities and their knowledge on the current environmental issues. Through the survey, we found that most students prefer to join activities that could provide them valuable and meaningful insights about the environment. Additionally, students that had not participated in some environmental activities are interested to participate in games that surround the topic of the environment. Moreover, most high school students consider physical rewards as their first priority in participating in environmental activities. The findings have indicated that high school students' preferences and considerations can influence their participation in environmental activities which correlates with their level of environmental awareness. Therefore, this highlights the significance of designing activities that are interactive and engaging for high school students to improve their knowledge and awareness towards environmental issues.

## INTRODUCTION

In current society, there have been escalating numbers of environmental crises, including those that affect other lives on the earth and humans. From climate change to the major loss of biodiversity, it is undeniable that they are all, at least partly, caused by the doings of human beings. Although the problem of these environmental issues have always alarmed people nowadays to take action that can lead to a more sustainable environment for both humans and living organisms to live harmoniously, there are always newcomers into the society. Hence, the core to addressing these challenges is fostering environmental awareness, a critical precursor to informed decision-making and proactive stewardship of natural resources.

We are focusing on the environmental awareness of high school students in Hong Kong, as these highschoolers will be entering the society very soon, they have a significant role in creating a more sustainable environment, as well as the potential to make a change in the society. Therefore when hoping to eliminate environmental issues, the most prominent step is to input ecological knowledge and hence enhance the environmental awareness of highschool students. However, there have been increasing amounts of environmental activities including media campaigns, community clean-ups, tree-planting initiatives, and citizen science projects, to more traditional ways such as talks and lectures, there is always questioning on whether these activities make a difference in the current levels of environmental awareness of highschool students. This in a way shows that we have experimented and investigated on designing the activities to enhance environmental awareness, yet few studies systematically examine how participatory activities directly shape environmental awareness of highschool students. This study seeks to address this gap by investigating the extent to which engagement in environmental activities influences individuals' awareness, attitudes, and intentions toward sustainability, as well as the effectiveness of the current activities.

We distributed 72 surveys to investigate the preferences and awareness of highschool students of a school. We focused on different factors that alternate the level of engagement of students in an activity including interactiveness, how much information it can provide students and factors not directly related to the activity including physical rewards. Additionally, how students preferences have on the level of satisfaction of an environmental activity and the current level of awareness of this group of highschool studen wets.

# HOW ENVIRONMENTAL ACTIVITIES IMPACT ON HIGH-SCHOOL STUDENTS ENVIRONMENTAL AWARENESS

The findings hold significant implications for policymakers, educators, and environmental organizations, offering evidence-based insights to optimize the design and outreach of initiatives aimed at nurturing ecologically conscious communities. Aiming for better environmental education and designing of sustainable measurements and policies for young people, contributing to global sustainablity.

## 🔍 LITERATURE REVIEW

Our research topic is awareness of the environment among Hong Kong high school students. Nowadays, the environment has become a hot topic among Hong Kong and also other countries, especially in middle/ secondary schools. As a result, secondaries have been promoting environmental awareness to students, hoping to increase awareness of the environment among future pillars of the society. So far, secondary schools have been hosting awareness events, such as competitions, talk shows, outdoor activities, visual art projects and many more events.

The literature chosen is from the official EDB website (Educational Bureau). According to the literature, "government schools continued to promote environmental education by organising green activities for their students in 2023."

So far some activities government schools organised are "Greening School Project", environmental exhibition, and planting trees. These activities aim to increase their awareness by encourage them to explore more about this topic, and put themselves in their shoes. The government tries to use interesting and creative ways in interesting secondary students. Instead of the traditional way of educating the students with books and lectures, competitions and field work were used to interest them. This can allow students to enjoy the experience of taking part in physical activities and also allow them to bring home some key takeaways of the importance of environmental sustainability.

Sustainability also became a part of their life. Hong Kong Government encourages schools in "building greener schools". This can be achieved by increasing landscapes in the school environment, designing "green areas", inserting "waste separation bins", and using "green technolo-gy". Fostering a green lifestyle within their school community helps encourage changes and their awareness towards sustainability, as students spend most of their time in school. The school can influence students to learn more and take action in achieving sustainability, as they can be influenced if they use more of the facilities that promote sustainability. Overall, the Hong Kong government has been trying to achieve sustainability through educating younger generations. The methods in educating and raising their awareness are fun and non traditional ways to appeal to more students. This has resulted in the topic of "environmental sustainability awareness". According to this article, it suggests that schools and the education system can encourage students to understand and learn more about the environment and how we can be sustainable.

### How to encourage high school students to engage more in environmental activities? A literature review

1. Introduction

   While there has been much research on the topic of the awareness of high school students on the environment, few researchers have taken what environmental activities could encourage high school students to participate more into consideration. Environmental activities consist of different types. For instance, talks, activism and funding etc. It is strongly believed that through understanding which aspects of environmental problems high school students lack awareness of and preferences of environmental activities could assist us in finding out what environmental activities attract high school students best to actively participate in.

2. The relations between students' awareness, acknowledgement on the environment and preferences of environmental activities

   2.1. Overview of the high school students' environmental awareness

   Recently, environmental awareness has emerged as a crucial aspect in education. Hence, it is important to know how much the students know about the environment and how aware they are towards the environment. Therefore, this research can provide us insight on high school students' environ-

mental awareness. According to the qualitative surveys conducted by the researchers (Zsóka et al.,2012) The question was "Do you agree with the statement that to solve environmental problems, it would be necessary to reduce consumption?". The survey has shown that most high school students tend to disagree with the statement, which reflects that those students' environmental knowledge is lacking because overconsumption is considered as one of the significant drivers of climate issues. This suggests that the high school students may not fully grasp the idea of overconsumption, which is considered as one of the crucial factors in leading to environmental issues.

### 2.2. Importance of understanding students' preferences

To commence with, understanding the preferences of high school students can greatly assist us in finding what environmental activities that they would be interested in. For instance, the survey conducted by the researcher (e.g Zsóka et al.,2012), "The average frequency of buying consumer goods". The result has revealed that most high school students frequently purchase electronic devices on average; while books and newspapers were the least frequently purchased item in the category. Hence, this shows that using books and newspapers, a straightforward way, to promote and hold environmental activities will be unable to attract the high school students to participate in them. Additionally, according to another research (David Swaney 2020), which mainly discusses a case study in a high school classroom on what subjects activities attract the most students. For example, some high school students prefer activities with games. Hence, this suggests that the implementation of game-like elements could increase the high school students' engagement in environmental related activities. However, schools may not be able to meet the high school students' expectations which may affect students' participation in environmental activities. Therefore, it is crucial to understand students' preferences in order to effectively encourage high school students to join.

### 3. Conclusion

The relations between the acknowledgment or awareness of the environment and the preferred environmental activities of the high school students are significant in finding out what environmental activities do the high school students preferably want. This literature review fills in the gaps of the journal (Zsóka et al.,2012) of what environmental activities are favourable and preferred by high school students. The purpose of this literature review is to show the relation of both environmental acknowledgment and preferences of environmental activities and to support our research further. I hope to bring more participation in environmental activities and learn more about our world's environmental issues.

**Literature Review on designing environment activities for students**

### 1. Introduction

To enhance the environmental awareness of students, there are multiple ways to design activities including conducting lectures and funding activities. However, whether an environmental activity is highly effective in embedding environmental knowledge in students' minds, depends on the way the activity is planned, how it is approached and the value of the activity itself. In society nowadays, the school plays a paramount role in creating an atmosphere that allows the students to engage more in their environmental activities and reinforce the knowledge of environmental protection in the process. Hence, it is strongly agreed that by planning the right activities for students is the way to overall improve the understanding of environmental issues and the new trends of environmental protection.

### 2.1 School curriculum and practice

Learning for sustainability needs introduction of better school curricula, according to the European Education Area Strategic Framework, the core competence in learning sustainability are interconnected knowledge, skills, and values that enable effective engagement of students to achieve environmental protection for a healthier earth. The document shows that learner-centred pedagogies and participatory learning

opportunities are relatively more constructive and students' engagement is seen clearly. Examples include student clubs, competition and eco-programmes, this can extend to interactive curriculum that youth voices can be expressed. Additionally, tasked-based work and active learning can be achieved by providing opportunities for students to take action outside the school, connecting daily life practices and the community.

However, there are barriers which may hinder the embedding of the sustainability culture in a school, different schools have different levels of environmental education, there are unequal experience and perspective of students when approaching environmental issues. Another issue is related to the amount of funding provided to schools in order to carry out sustainability approaches, sufficient funding is vital in guaranteeing that schools and educators have the confidence and competence in supporting students to learn core sustainability competences.

### 2.2 Students preferences

In the study conducted by Gulcan Cetina *Seda Hilal Nisancib on "Enhancing students' environmental awareness", the study concluded that the activities in which students can perform practices themselves and create new products on their own, enhance their environmental awareness, allowing them to freely express themselves and actively participate in the activity. Students interviewed expressed that they enjoy these activities and learn ecology in a more fun and interactive way.

## ✏️ METHODOLOGY

### 1. Procedure

A total of 72 student respondents from 2 Hong Kong Secondary Schools have participated in this survey. The respondents were randomly selected, their participation was voluntary, ensured full privacy and the right to quit any time during the survey.

### 2. Survey design

The survey was created specifically focusing on Hong Kong Secondary students' preferences of environmental activities, ex-

periences, considerations and the level of environmental knowledge. In the Preferences section, students were asked to answer 3 items related to their preferences and considerations for environmental activities by choosing 3 reasons through the list that is provided and ranking different items. In the Participation section, students answered 3 items related to their participation and experiences of environmental activities by using the 5 point likert scale and choosing from a list of options provided. In the Knowledge section, students answered 3 items related to environmental awareness and knowledge by doing multiple choices that were ranked easy, medium and hard. The result will then be presented in table form to compare,

### 3. Purpose of questions

#### 3.1 Preference and consideration

To prevent the overload of preferences, when deciding whether or not to join an environmental activity, we have considered several factors that may lead to the participation of them, and quantified qualitative results can be produced. With 10 factors that are considered, there are possible reasons that they would consider to participate in an activity by referring to the past research, the higher the percentage of choosing that preference means that more people value that perspective when joining an activity, whereas the lower the percentage the lower the importance. On the other hand, there are factors that hinder the participation of environmental activities. When these factors are considered by students, they may not want to join the activity, this can be avoided when designing an activity and thinking of how to encourage students to join. The higher the percentage of choosing the factor means when that factor appeared when considering the activity has higher possibility to have low participation. When considering an activity, the participants have to prioritize the factors that are more important and those that are relatively not from 1-first priority to 7-least priority.

#### 3.2 Participation and experience

In order to encourage high school students to engage more in environmental activities, their experience in those activities are crucial in finding which attracts them the most.

Considering that some students may have not participated in some environmental activities. Hence, we have provided them with questions about their participation in environmental activities to divide them into two groups, "have participated" and "have not participated", which prevents the result from containing biases and a likert scale for the students to rate their experiences in certain types of environmental activities. Furthermore, the purpose for students to rate their experience of the environmental activities provided is to find out what types of activities they interests them the most which then aids environmental related organisers to organise a more engaging activity for students to be more eager to participate in environmental activities as their environmental knowledge and environmental awareness have a strong link between their experiences in the activities.

### 3.3 Knowledge and awareness

It is given that environmental knowledge and awareness is vital for students' development as the world faces different environmental issues. To create activities that are suitable for students, It is essential for organisers to understand and figure out how aware are the students towards the environment and how much they know about the environment at present because holding activities that does not match with the students' knowledge base would be difficult for students to understand or be interested with the activity that they are participating. Hence, the following factors may lead to the lower efficiency for students to absorb more knowledge about the environment or disinterest them. Therefore, it is crucial for organisers to acknowledge these factors when making environmental related activities. In this section of the survey, we have divided into a range of difficulties, from easy to hard to test how much they know about the environment.

## 🚩 FINDINGS
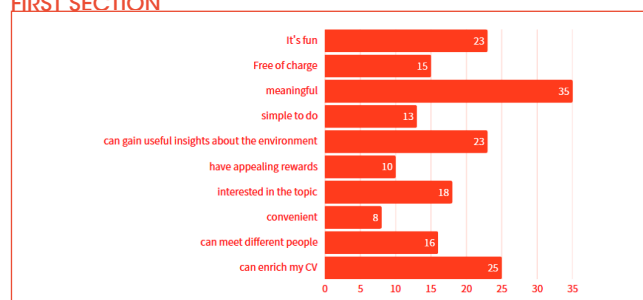
### 1.1  Participants

The survey has received 72 responses, 56.9% are male and 43.1% are female. Among 72 respondents, 70.8% are Secondary 5 students, the remaining are Secondary 4 students(29.2%). Hence the results may be more biased towards male secondary students.
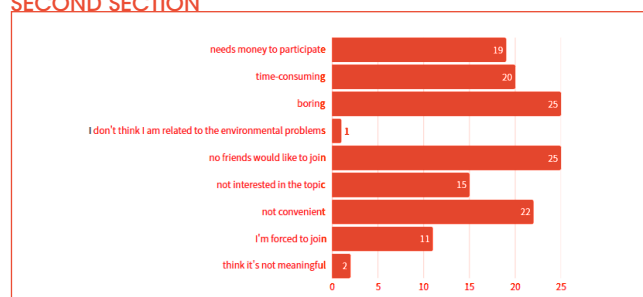
### 2.1 Preference and consideration

On the first section, students show preference on activity that is meaningful the most (48.6%), whereas they show least preference on activity that is convenient (11.1%), however every factor considered was at least preferred once shows that these factors can still be considered when designing activity, On the second section, results shows that students do not prefer activities that are boring or when there were no friends accompanied (both 34.7%), whereas only one respondents thought that environmental activity is unrelated to them. In the last section, when considering whether or not to join an activity, students showed first priority when there are physical awards( 30.6%), most second priority on social interactions(26.4%), whereas most students' least priority was responsibility (36.1%). This implies that to appeal more students to participate in environmental activities, it is suggested that to reward them with physical rewards and design more meaningful environmental activities. In addition, it is advised to avoid designing activities that are disinteresting or have a small amount of quota as most students would prefer to join the activities when their peers participate as well. Apart from that, there are also some less important factors which is the convenience of the activity

**FIRST SECTION**



**SECOND SECTION**

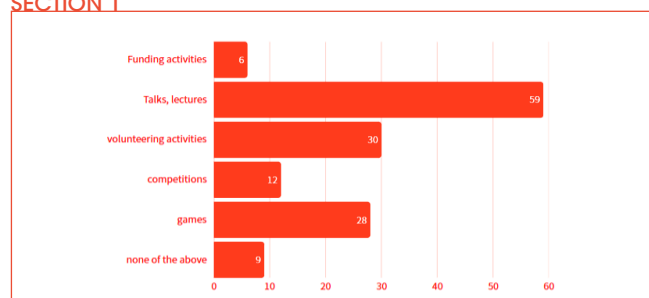# HOW ENVIRONMENTAL ACTIVITIES IMPACT ON HIGH-SCHOOL STUDENTS ENVIRONMENTAL AWARENESS

## 2.2 Participation and experience

Among 72 participants, the majority of them(81.9%) have participated in talks and lectures about environmental awareness, whereas only 6 of them have participated in funding activities, this can indicate that talks and lectures are the most popular style of environmental activity among highschoolers. (shown in section 1) In the section, students rate different types of environmental activities from very satisfied to very not satisfied, results show that most students enjoy talks and lectures, volunteering activities and competitions, at the same time, most students are not satisfied with talks and lectures, though there are only small percentage of students are not satisfied with the types of environmental activities listed. However as most students have not participated in certain activities, this may be biased towards those who participated, for instance for Funding activities, more than 70% of them have not joined them. Therefore, section 3, students who have not participated in the environmental activities will rate how much they are interested in joining certain en titions and games, whereas most students are not interested in joining funding activities. Section 3's results reflect on section 2's results, students tend to be more willing to join competitions and volunteering activities. However, there is a large percentage of students that are neutral when rating the different types of environmental activities.
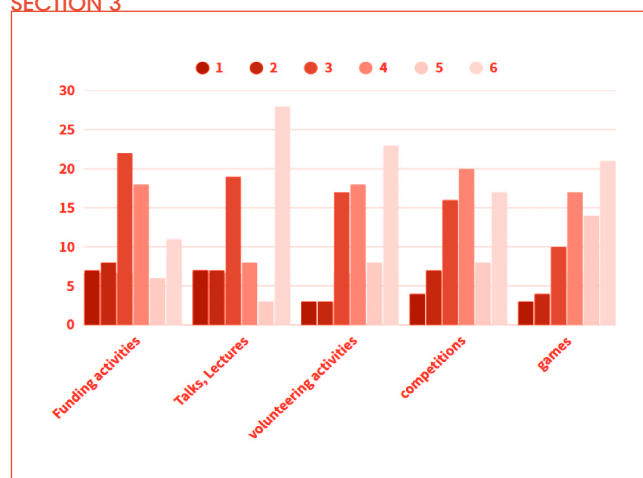
SECTION 2



SECTION 1



SECTION 3

## 2.3  Knowledge and awareness

At the end of the survey, it is discovered that the majority of the students (70.8%) are able to answer correctly on the easy section which is "What greenhouse gas is most commonly measured in corporate carbon footprints". However, there were still a total of 29.1% of students unable to answer correctly in the easy section. This reflects that most students know the basics of the environment around them. Additionally, it is needed to consider that some students may not understand or have not learnt the topic of this question. Hence, this may cause them to answer incorrectly. In the section where the difficulty is medium, the majority of the students (51.4%) have failed to answer correctly while only 44.4% of students could answer correctly on the definition of net-zero emission which implies that the students may not understand much on the topic of net-zero emission. Hence, when organising similar topic activities, it is advised to use more fundamental based knowledge for students to understand more about the topic. Otherwise, the students could not understand the topic about it or learn the meaning behind the activities. In the section in which the difficulty was hard, most students (58.3%) were able to answer correctly while only 41.7% of students answered incorrectly.

# CONCLUSION

### 4.1 Discussion

This research aims to find out how environmental activities affect highschool students' environmental awareness. We want to know the relationship between students' opinions and the effectiveness of environmental measurements that aims to enhance environmental awareness. When participating in environmental activities, it is often heard that students do not understand the meaning of joining these environmental activities as well as the reasons for holding these activities. Hence, it is equally important to balance students preferences and knowledge when designing environmental awareness activities. We investigated the preferences, level of satisfaction of the types of environmental activities, level of interests and the current level of environmental awareness of highschool students. We want to know "were the activities useful in teaching students on how to protect the environment?". It can be seen that

many of the students focused on activities that are more insightful, meaningful and those that can enrich their resume or curriculum vitae (CV), this can be reasoned as the respondents are highschool students, they may value knowledge and how to get into a more desirable job or university. While some also focus on fun environmental activities, this explains that most respondents are interested in joining games and volunteering activities, which are more meaningful and can provide credit to students who participate in them. On the other hand, even though talks and lectures are informative, they lack fun and interactiveness, and most do not provide credit or meaningful experience, as shown that students do not like activities that are boring and time-consuming. However, most students have joined talks and lectures but not games and competitions, there may be an information gap that students do not know how or what to join. Hence, teachers and policy makers should prioritize promoting activities to students. Through students, they can attract more participants by inviting their friends using the advantage that students value the companionship of friends.

When designing environmental activities, whether the activity is really effective is the other main point of the research. As mentioned before, due to the school's teaching style, it may affect how the students respond to these questions. Considering that the hard level question has a higher passing rate than the medium level question shows the possibility of how the school's teaching syllabus could affect the students' knowledge base of the environment. Therefore, to improve their environmental awareness and knowledge, a well designed activity could enhance both criteria. This can include a more creative based curriculum, valuing students' critical thinking skills and using the basis of environmental issues to solve environmental problems that can be assessed within the school community, hence it is more meaningful and insightful, at the same time more fun and interactive curriculum so that students learn what's happening on the earth right now.

### 4.2 Limitations

The methodology and research process in this research contains potential limitations due to

different factors.

### 4.2.1 Limitations of methodology

To commence with, the small sample size is one of the limitations of methodology. Since only 72 students from different secondary schools in Hong Kong have participated in the survey. Hence, the survey may contain bias which affects the result of the survey. Apart from the small sample size, the gender ratio and grade ratio is also a limitation of this research. In the aspect of the gender ratio, 56.9% of male students and 43.1% of female students have participated in the survey. This reflects the uneven distribution of the gender as there is 13.8% more males than females students. Hence, it may affect the survey result due to the inadequacy of the gender ratio. Moreover, referring to the grade ratio, it displays an uneven distribution of grades as the majority of respondents (70.8%) come from secondary 5 while only 29.2% of respondents come from secondary 4.

Furthermore, a quantified qualitative survey was used in the research to conduct the survey. Hence, there may be some other options that are not included or provided in the survey as they are all asked in multiple choice questions and not open-ended questions. Therefore, it potentially affects the final result as students cannot answer as they desire. Hence, the students may find the answers do not align with their ideal answers, they may choose options that match less with their original idea. Therefore, there may be biases in the survey questions.

### 4.2.2 Potential errors in responses received

When conducting the survey, we assumed that the responses of the students were truthful and were answered honestly, we cannot be certain that the results are completely valid. To be more precise, some answers contain contradictions. Referring to the responses, where there are only 6 people that admitted they have participated in funding environmental activities, however when rating the activities, results show that only 34 respondents have not participated in funding activities, the results do not match each other and cause inconsistency. Additionally, when respondents answer the consideration they have when participating in environmental activities, they are supposed to prioritize which of the options are more important from the scale 1 to 7, results show that physical rewards are rated both most important and least important. This shows that the variation of responses is too large that students choose the direct opposite, this can be because the sample size is not large enough. However, it is normal that different people have completely different values and prospects, an all-rounded answer cannot be concluded. Hence, the survey results may not be representative in proving that some factors may lead to the satisfaction of all students, the conclusion is still not entirely complete.

# 6

# EVALUATING THE CHALLENGES LOCAL WASTE MANAGEMENT SMES FACE IN ADOPTING ESG STRATEGIES: INNOVATIVE SOLUTIONS AND BEST PRACTICES FOR OVERCOMING BARRIERS

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## INTRODUCTION

An important problem that needs to be solved is the escalating threat of climate change and the excessive use of natural resources, which poses significant risks to our planet and future generations. As global environmental challenges intensify, it is crucial for businesses, particularly small and medium-sized enterprises (SMEs) to participate actively in solutions that promote sustainability and social responsibility. The integration of ESG (Environmental, Social ,and Governance) reporting is vital in this context, as it provides a framework for companies to assess their impact on society and the environment.

ESG encompasses three key factors for assessing a company's sustainability and societal impact. The "Environmental" aspect evaluates how well a company protects nature, while the "Social" component examines its relationships with employees, suppliers, and communities. "Governance" focuses on leadership, audits, and shareholder rights. By embracing ESG principles, SMEs can contribute to important societal goals and enhance their competitiveness in a marketplace increasingly focused on sustainability and social responsibility. This alignment not only benefits the environment but also fosters trust and loyalty among stakeholders.

Our Literature Review on ESG reporting highlights various themes, including the advantages of adopting ESG practices, the challenges SMEs face in implementation, and the evolving regulatory frameworks the government imposes.

The key topics we will introduce include: Firstly, the role of ESG in enhancing business reputation by creating the image that businesses are being socially responsible while also enhancing stakeholder trust in the business. Secondly, the barriers SMEs encounter in adopting ESG frameworks. Moreover, the impact of consumer preferences on ESG adoption and lastly, the emerging regulatory requirements for ESG reporting. These topics provide a comprehensive backdrop for understanding the complexities surrounding ESG adoption in SMEs.

Despite the growing recognition of the importance of ESG, a significant research gap exists concerning the specific challenges faced by SMEs in implementing these practices, particularly in regions like Hong Kong. While existing literature discusses the advantages of ESG reporting, there is limited exploration of solutions that address the unique barriers SMEs encounter. This paper contributes to the discussion by identifying practical problems that need resolution and offering solutions to make ESG adoption and reporting easier for SMEs.

Our key findings indicate that SMEs often hesitate to adopt ESG practices due to financial constraints, lack of expertise, and insufficient regulatory pressure. However, those that do engage in ESG initiatives can benefit from enhanced reputation, improved access to financing, and greater operational efficiency.

This paper is organized into several sections. Following the introduction, we provide a comprehensive Literature Review that examines the advantages and challenges of ESG reporting for SMEs, followed by case studies of successful ESG implementation. We then discuss the first hand findings from interviews, identify solutions to overcome the barriers to ESG reporting, and conclude with recommendations for practitioners and policymakers.

The aim of this study is to explore the challenges and imperatives surrounding ESG reporting in SMEs, ultimately contributing to the development of effective strategies that encourage sustainable practices and enhance the overall resilience of these enterprises.

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## Literature Review

- **Challenges and Imperatives for ESG Reporting in SMEs**

The integration of ESG reporting is becoming increasingly vital for SMEs, which constitute 90% of firms globally and account for approximately 70% of employment. However, SMEs often lag behind larger corporations in adopting these practices. This section explores the challenges they face and the compelling reasons for their engagement in ESG reporting.

- **Advantages of SMEs adopting ESG**

One of the strongest advantages of SMEs adopting ESG programs is that it maximizes their contribution to society and the environment. By implementing sustainable practicesV and publicly disclosing their ESG activities, SMEs can have a closer connection with their stakeholders and the people they serve. Today's consumers are more drawn to socially responsible and sustainable businesses, and ESG projects present an opportunity for SMEs to build trust and goodwill. For example, cutting carbon emissions or the investment in neighborhood community initiatives demonstrates they care about people and the planet, which is something socially conscious consumers will be drawn to. From an environmental perspective, SMEs adopting ESG practices can make substantial strides in turning around major global problems such as climate change and excessive use of natural resources. Initiatives such as reducing energy consumption, waste reduction, and use of renewable energy not only give the world a healthier environment but also place SMEs on the list of good corporate citizens. These efforts have a ripple effect by pulling other companies into their wake, thereby further enhancing the positive effect on the environment.

Moreover, having ESG programs for SMEs is not just a case of doing the right thing for the environment and society. It also makes good business sense. No less impressive is the enhancement of reputation and brand value. In a stakeholder and consumer-led market where consumers increasingly consider ethical and sustainable choices, SMEs most dedicated to ESG can have an advantage over competitors. By showing their adherence to ESG principles, they acquire new customers, retain existing customers, and build a brand reputation that makes them stand out. Moreover, ESG activities can significantly improve SMEs' access to finance and sustainable financing. Investors and financial institutions increasingly evaluate companies based on their ESG performance. Transparent ESG reporting communicates responsible governance and sustainable operations, making SMEs more appealing to investors who look for long-term value creation rather than short-term returns. This shift offers new opportunities for SMEs to raise funds and form partnerships with like-minded stakeholders. In addition, ESG implementation provides SMEs with enhanced risk management skills. Through the identification and resolution of potential risks associated with environmental, social, and governance factors, SMEs can prevent regulatory fines, legal sanctions, and reputational loss. Such a proactive stance not only protects their business but also guarantees business continuity and resilience in a world that is growing more uncertain.

Finally, ESG projects are likely to lead to operational efficiency and cost savings. Green operations like reducing energy consumption or optimizing waste management can decrease operating costs. Moreover, investment in employee wellness and happiness improves productivity and reduces turnover rates, fostering a more dedicated workforce. By closely monitoring their ESG performance, SMEs can identify areas of improvement, leading to long-term cost savings and sustainable growth.

### Challenges in ESG Reporting for SMEs

SMEs encounter several significant obstacles in their ESG reporting efforts. (Marketing, 2024)[1] (Firms Face Challenges in Bridging ESG Policy and Implementation, 2024)[2]

- ▶ **Budget constraints**

    Budget limitations are a prime concern. SMEs often operate under tight budgets, which makes it difficult to allocate funds to ESG-related investments. Establishing reliable data collection systems and hiring experienced consultants, requires a substantial financial commitment, which many SMEs may find hard to justify. The slow process

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- of adopting the ESG framework is further compounded by the perception that investments in sustainability provide intangible or long-term benefits, making them less urgent compared to operational needs. They lack a clear understanding of the potential returns, and this financial hesitancy creates a significant barrier to entry for many businesses that might otherwise benefit from ESG adoption. (Jhaxell & Jhaxell, 2024)[3]

▸ **Lack of expertise**

Another considerable challenge is the lack of expertise within SMEs. Many businesses do not possess specialized knowledge to navigate the complexities of sustainability metrics and compliance requirements. Unlike large corporations that can afford dedicated ESG teams, SMEs often rely on generalized employees who may not have the technical skills to handle such intricate tasks. This knowledge gap can obstruct the identification of key performance indicators, essential for meaningful ESG reporting. (Greggwirth, 2025)[4]

▸ **Inadequate Data Collection Systems**

Efficient ESG reporting relies heavily on accurate and reliable data, yet many SMEs lack the infrastructure to gather and analyze such information. Without effective mechanisms for gathering relevant data, SMEs struggle to produce accurate reports and identify areas for improvement. This deficiency undermines the potential impact of their sustainability efforts. (Greggwirth, 2025)[5]

▸ **Uncertain Incentives and Lack of Regulation**

Finally, uncertain incentives deter SMEs from committing to ESG reporting. Unlike larger companies that often face mandatory disclosure requirements, many SMEs operate in industries where ESG reporting is voluntary. This lack of regulatory pressure leaves SMEs questioning the value of investing time and resources into sustainability initiatives. (Leempoel, 2023)[6]

**The Imperative for SMEs to Adopt ESG Practices**
Despite these challenges, the case for SMEs to prioritize ESG reporting is compelling. Growing regulatory frameworks, such as the EU's Corporate Sustainability Reporting Directive (CSRD), signal an impending shift toward mandatory reporting. Additionally, changing consumer preferences favor socially responsible brands, which can significantly influence purchasing decisions. Lastly, increasing reliance on ESG transparency in financing decisions highlights the need for SMEs to provide reliable ESG information to secure vital funding. Addressing these challenges is essential for SMEs to thrive in a competitive and evolving marketplace. Below are some successful overseas cases of SMEs adopting ESG initiatives.

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## Waste Connections

The company, Waste Connections (Annual Reports, n.d.)[7] , is a leading provider of waste management services in the U.S. and Canada, focused on delivering sustainable waste collection, disposal, and recycling solutions. Established in 1997, Waste Connections has built a strong reputation by prioritizing environmental responsibility and operational excellence. The company serves a diverse client base, including residential, commercial, municipal, and industrial customers, through various contractual arrangements, making it a key player in the waste service industry.

Waste Connections has established a robust framework for achieving its ESG objectives through a series of targeted initiatives and strategies.

To enhance its environmental stewardship, Waste Connections has committed significant resources to sustainable practices. For instance, the company has allocated $500 million toward long-term ESG targets that focus on reducing absolute Scope 1 and 2 emissions. This commitment underscores its dedication to minimizing the environmental impact of its operations. The company also emphasizes resource recovery through recycling and renewable fuel generation. By implementing advanced technologies in waste processing and exploring renewable energy projects, Waste Connections aims to divert waste from landfills and promote environmental sustainability.

Waste Connections places a strong emphasis on social responsibility, particularly in terms of employee safety and community engagement. The company has set ambitious targets to reduce safety incident rates by 25% and enhance employee retention through various continuous improvement initiatives. For example, the firm has raised $1.9 million through its Golf Classic for Kids and built 10,000 bikes as part of its Christmas Promise initiative in 2023, demonstrating its commitment to community support. Furthermore, Waste Connections actively recruits from local communities and utilizes diverse hiring channels, including partnerships with military-focused and diversity-oriented recruiting websites, which fosters an inclusive workforce.

In terms of governance, Waste Connections has integrated its ESG targets into executive compensation metrics, ensuring that leadership is held accountable for meeting sustainability goals. This alignment of incentives reinforces the importance of ESG factors in decision-making at the highest levels of the organization. Additionally, the company is dedicated to transparency, as evidenced by its participation in ESG-related industry events and the expansion of ESG data points, which facilitate engagement with investors and stakeholders.

In summary, Waste Connections demonstrates its commitment to achieving ESG objectives through a multifaceted approach that includes significant investments in environmental initiatives, a focus on social responsibility, and strong governance practices. These efforts not only enhance the company's operational sustainability but also contribute positively to the communities it serves and the broader environment.

▶ **Eco-Cycle**
Eco-Cycle (2024 Annual Report – Forging Forward, 2024)[8] is a pioneering organization dedicated to fostering sustainable practices through its innovative Zero Waste solutions. Founded with the mission to create a more sustainable, equitable, and climate-resilient future, Eco-Cycle focuses on reducing waste and promoting recycling, composting, and reuse systems within communities. The organization has established itself as a leader in the movement towards a circular economy, which seeks to minimize waste and maximize resource efficiency. In the 2022-2023 period, Eco-Cycle recycled over 95.5 million pounds of materials, significantly contributing to carbon emission reductions equivalent to removing 40,000 cars from the road for a year. Eco-Cycle demonstrates its commitment to the ESG framework through distinct strategies that address environmental, social, and governance aspects.

As for the environmental aspect, Eco-Cycle focuses on implementing Zero Waste strategies to mitigate environmental impact. A key initiative is the development of a community-based Circular Compost System, which reduces transportation emissions and promotes local compost production instead of relying on large centralized facilities. This approach not only minimizes

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carbon emissions but also fosters sustainable agricultural practices by allowing farmers to produce compost tailored to their needs. Additionally, Eco-Cycle launched the electrification of its hauling fleet, introducing the nation's first commercial-scale compost collection truck, a significant step towards achieving a Zero Waste–Zero Emissions future. Their efforts have led to the recycling of 95.5 million pounds of materials, significantly reducing carbon dioxide emissions equivalent to taking 40,000 cars off the road for a year.

In terms of social, the organization places a strong emphasis on community engagement and education, particularly through its Green Star Schools program. This program integrates Zero Waste principles into the daily routines of over 30,000 students and 4,000 staff across 60 public schools, fostering a culture of environmental stewardship among youth. Eco-Cycle also addresses social equity by redesigning its strategies to provide recycling services to low-income housing communities. This initiative aims to overcome barriers to recycling access, ensuring that all community members can participate in sustainable practices. By empowering both students and underserved populations, Eco-Cycle enhances social responsibility and community involvement in sustainability efforts.

Eco-Cycle's governance strategies are evident in its collaborative approach with local businesses and legislative bodies. The organization works with over 600 local businesses to assist them in their waste reduction efforts and to promote sustainable practices. Moreover, Eco-Cycle played a pivotal role in advocating for the Organics Diversion Study Bill (SB23-191), which was signed into law to promote composting and organic waste diversion in Colorado. This legislative effort demonstrates Eco-Cycle's commitment to influencing policies that support sustainable waste management practices. Their governance framework includes fostering strong partnerships with various stakeholders, ensuring transparency and accountability in their initiatives.

In summary, Eco-Cycle effectively integrates environmental, social, and governance strategies to advance its sustainability goals, making significant strides towards a more sustainable and equitable future.

▸ **Waste Management, Inc.**
Waste Management, Inc. (Investor Relations | Waste Management, n.d.)[9] is a prominent provider of environmental solutions in North America, focusing on waste management, recycling, and renewable energy services. Its mission revolves around maximizing resource value while minimizing environmental impact, underscoring a strong dedication to sustainability and environmental stewardship. In response to the growing interest from stakeholders and regulatory bodies over ESG issues, the company has strategically embedded sustainability into its operations, thereby enhancing its business growth and reputation in the industry.

To achieve its environmental goals, the company implements several strategies aimed at reducing its carbon footprint and promoting sustainability. These strategies include expanding traditional recycling services, increasing the collection and processing of organic waste, and investing in renewable energy projects. The company actively assesses customer demand and explores opportunities to develop waste services that can significantly avoid lifecycle emissions, such as waste reduction initiatives and increased recycling efforts. Furthermore, the use of carbon life cycle assessment tools helps the company evaluate potential new services that can contribute to reducing lifecycle emissions. By actively supporting public policies that promote lower carbon energy and waste services, the company aligns its operations with broader sustainability goals while addressing the increasing demand for environmentally responsible practices from its customers.

On the social front, the company emphasizes stakeholder engagement and community relations, recognizing that collaboration is crucial for achieving its sustainability objectives. By adopting a people-first approach, the company enhances customer experiences and fosters strong relationships within the communities it serves. It actively engages in public policy discussions that support sustainable material management practices, which further align its services with community needs and expectations. This focus on social responsibility not only strengthens its brand image but also positions

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the company as a leader in environmental services.

In terms of governance, the company prioritizes compliance with regulatory requirements and the establishment of robust internal controls. It acknowledges the potential risks associated with ESG disclosures and takes proactive measures to ensure transparency and accuracy in its reporting. By investing in policies and practices that meet governmental guidelines and stakeholder expectations, the company mitigates risks related to reputation and compliance. This strategic governance approach enhances the company's credibility and fosters trust among investors and stakeholders, ultimately contributing to its long-term success.

In conclusion, the company effectively demonstrates its commitment to the ESG framework through comprehensive environmental strategies, strong social engagement, and rigorous governance practices. By aligning its sustainability initiatives with business growth objectives, the company not only enhances its competitive position but also contributes positively to the communities and environments it serves. This integrated approach to ESG not only drives operational efficiency but also positions the company favorably for future growth in an increasingly sustainability-focused market.

# STRATEGIES IMPLEMENTED CURRENTLY BY FIRMS OF SUCCESSFUL CASES

## Environmental Strategies

SMEs can prioritize sustainable sourcing by using eco-friendly materials, like bamboo or organic ingredients, and partnering with certification bodies such as ECOCERT. Implementing circular economy initiatives, such as recycling programs, can help reduce waste and promote sustainability. Additionally, investing in energy efficiency through renewable energy sources can lower carbon footprints and save costs.

## Social Strategies

Adopting inclusive hiring practices through open hiring models can provide opportunities for individuals facing employment barriers, fostering a diverse workforce. Committing to fair labor practices ensures that employees earn living wages. Furthermore, engaging with local communities by creating jobs and supporting initiatives can enhance community ties.

## Governance Strategies

Transparency and accountability are crucial; SMEs should speak openly about business practices and regularly report on ESG progress. Striving for diverse representation in leadership ensures varied perspectives. Establishing a code of ethics can guide decision-making and help maintain corporate integrity.

## Other Possible Solutions

To overcome the barriers to ESG reporting, SMEs can explore several innovative solutions. (The ESG Institute, 2023)[10] For example, forming collaborative networks with other SMEs or organizations can facilitate resource sharing and knowledge exchange, such that more affordable technology solutions for data collection and reporting can be leveraged. This way, it will benefit the streamlining of the ESG reporting process.

Furthermore, implementing training programs to build expertise in sustainability metrics and reporting practices can empower SMEs to enhance their capabilities. Training programs, such as partnering with educational institutions or consulting firms to develop specific curricula help bridge the knowledge gap for effective reporting strategies.

To effectively navigate the challenges of ESG reporting, SMEs can adopt best practices such as incremental implementation. This approach encourages them to start with small, manageable sustainability initiatives and gradually expand their reporting efforts. Engaging stakeholders, including employees and customers, in sustainability initiatives fosters a culture of accountability and transparency. Additionally, continuously reviewing and adopting ESG strategies based on feedback and changing circumstances can enhance effectiveness.

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# METHODOLOGY

To explore the challenges and opportunities that local waste management SMEs have encountered in recent years, this study will employ a purposive sampling approach by selecting a total of 4 SMEs located in Hong Kong to be interviewed. These selected firms represent various sub-sectors within waste management, such as recycling, waste collection and treatment services, ensuring diverse operational practices and experiences are considered.

Interviewees will be selected based on several criteria. First, the study will include both ESG-implementing and non-ESG-implementing firms to capture opinions from different perspectives. Moreover, only waste management companies classified as SMEs according to local regulations will be considered.

Data will be collected through in-depth research utilizing semi-structured interviews, allowing for flexibility while addressing specific questions relevant to the study. Our interview questions, informed by the Literature Review, aim to explore the challenges of ESG adoption, such as the lack of capital, expertise, or resources, and how local regulations affect respondents' decision-making processes in the waste management sector.

Each interview will last approximately 30 to 60 minutes and will involve a 2-on-1 discussion format. Audio recordings will be made with the consent of the interviewees to ensure accurate data capture. Given that SMEs are typically small-scale operations, the government has imposed limited regulations, and customers often show little preference for companies that adopt ESG strategies. We anticipate that many interviewees are not currently implementing significant ESG initiatives related to energy savings, such as energy management, waste reduction, pollution treatment, and natural resource conservation.

This reluctance to adopt ESG practices may stem from several challenges, including a lack of capital and limited time for compliance with regulations. Many SMEs might perceive ESG adoption as less impactful given such challenges, as its incentives may be insufficient, particularly in the absence of government mandates and because their customers do not express a strong preference for businesses prioritizing ESG practices. As a result, they may believe that implementing these strategies will not attract more customers or increase revenue.

However, we believe that some SMEs have successfully implemented innovative solutions to overcome these barriers. These companies may have developed strategies that not only address challenges related to limited capital and insufficient incentives, but also leverage their ability to adapt and implement effective ESG practices, ultimately benefiting their operations and enhancing their market competitiveness.

In conclusion, we believe that some SMEs have successfully implemented innovative solutions to overcome barriers to ESG adoption. These companies may have developed strategies that not only address challenges related to limited capital and insufficient incentives, but also leverage their ability to adapt and implement effective ESG practices, which are prime examples for the local sector. The Methodology is informed by the Literature Review, providing insights into the prevailing attitudes of waste management SMEs regarding ESG implementation.

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## 🚩 KEY FINDINGS

After conducting interviews with various local waste management companies, we found that, despite operating within the same sector, most do not currently implement any ESG initiatives. Our analysis identified three primary challenges these SMEs face in adopting ESG strategies, namely budget and financial constraints, the role of government regulations, and employee willingness. This section delves further into how these barriers disincentivize and prevent waste management companies from adopting ESG strategies.

It has been observed that Hong Kong waste management SMEs mainly focus on the "environment" aspect of ESG, unlike foreign counterparts that implement the ESG framework comprehensively. Therefore, the focal point of the Key Findings section is shifted to align with the context of Hong Kong, aiming to explore the challenges faced by waste management SMEs in practicing "E" (environmental) initiatives within the ESG framework.

### Budget and Financial Constraints

The main challenge preventing local waste management companies from adopting ESG initiatives primarily stems from budgetary and financial constraints. Most local SMEs operate on tight budgets, and their limited access to capital restricts their ability to invest in ESG initiatives, which are often viewed as non-essential expenditures.

One interviewee, who works for a technology-driven waste management company, emphasized, "The term 'ESG' is very vague and often loosely defined, making it difficult for many companies to see the tangible benefits of such investments." As a result, skepticism arises regarding the value of allocating financial resources toward the implementation of ESG strategies.

"Companies striving to maintain financial credibility are more inclined to allocate resources toward adopting ESG initiatives," the interviewee also added. This highlights a critical point: SMEs require substantial financial resources to uphold their credibility in the marketplace. By committing to ESG strategies, these companies can better position themselves to attract investments and foster positive relationships with stakeholders, which are essential for long-term sustainability.

Despite the availability of funding options, many SMEs remain financially constrained. Another interviewee, who founded a local recycling company focused on door-to-door recycling services and sorting recyclables, noted, "Most SMEs still struggle to make ends meet, even with the availability of funding." For instance, private institutions such as AIA and the Jockey Club provide financial support to local SMEs, and the Hong Kong government also offers funding to assist companies with environmental initiatives, notably through the Environment and Conservation Fund.

"However, the primary reason many SMEs do not leverage these funding opportunities is that they often do not apply for them." The interviewee pointed out that eligibility requirements can be prohibitive; many SMEs are private companies that generate revenue through their services. For example, the Environment and Conservation Fund stipulates that organizations applying must be local tax-exempt charities, registered non-profit companies, or local post-secondary education institutions. These stringent requirements create barriers for many SMEs, as they may not meet the specific qualifications and standards necessary to qualify for funding.

With most of their income derived from service-based operations, there is little room for investment in innovative technologies or sustainable practices that could enhance their ESG profiles. This lack of financial flexibility makes it difficult for these companies to pivot toward greener practices, even when they are committed to doing so.

An interviewee from a company providing food waste disposal machines that efficiently convert kitchen waste into organic material, and which is certified with SDG 12, also concurred that capital is a significant challenge for SMEs. They stated, "Our initiatives are self-funded, as we avoid relying on government funding or external investors to maintain independence." However, government delays in waste management policies have negatively impacted their retail performance, causing sales to slow down.

Furthermore, the perception of ESG as an optional or secondary concern can hinder progress. Most interviewees suggested that many SMEs prioritize immediate financial survival and operational efficiency over long-term sustainability goals. This short-sightedness can prevent them from recognizing that ESG initiatives could eventually lead to cost savings, improved operational efficiencies,

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and greater customer loyalty.

In conclusion, the challenges preventing local waste management companies from adopting ESG initiatives are deeply rooted in financial constraints, eligibility barriers for funding, and the perception of ESG as a non-essential investment. By recognizing the long-term benefits of ESG initiatives, local waste management companies can better align their operations with sustainable practices, ultimately contributing to a more environmentally responsible future.

**Role of Government Regulations**

The role of government regulations in shaping the adoption of ESG initiatives among local waste management companies is critical, yet fraught with challenges.

One significant issue is the inability to foresee economic growth, coupled with what the interviewee working in the technology-driven waste management company added, "regulations to adopt ESG initiatives are not legally binding." This lack of enforceability means there are "often no consequences or penalties for non-compliance", which leads to a sense of complacency among companies. As a result, the urgency to adopt sustainable practices diminishes, allowing many businesses to operate without feeling the pressure to change.

Historically, initiatives like the United Nations Millennium Development Goals, established in the 1990s, aimed to promote sustainability globally. In Hong Kong, the stock exchange has always required publicly listed companies to submit ESG reports.

The interviewee also added, "previously, when this requirement was first established, companies did not have to face any consequences, as the stock market only took an approach of encouragement. It was then shifted to companies having to explain why ESG reports could not be submitted; however, it still lacked consequences. This problem persisted – the lack of consequences for failing to meet these reporting requirements has led to minimal accountability. Companies may be technically compliant by submitting reports, but the absence of real penalties means that the motivation to genuinely engage with ESG principles is weak." The lack of consequences, as highlighted by the interviewee, shows that this issue creates a cycle of superficial compliance, where firms focus on meeting the bare minimum rather than striving for meaningful change.

The interviewee pointed out that while companies are required to submit ESG reports, they often struggle to set concrete Key Performance Indicators (KPIs). "A major hurdle is the lack of baseline data on waste management and other environmental metrics, making it difficult to establish realistic goals." For SMEs, the financial burden of compliance is considerable, especially when the ESG framework is perceived as too broad and vague.

One of the interviewees further elaborated, "The government should provide more financial support, tax incentives, and subsidies for companies adopting ESG strategies, but we cannot count on that. More importantly, stronger enforcement of environmental regulations and public education campaigns would encourage more businesses and individuals to take action."

While this may represent the opinion of majority of the companies, conversely, the founder of the recycling company presented a different viewpoint, suggesting that "the government has little responsibility to incentivize companies to adopt ESG practices, especially given the substantial resources that have already been allocated to public facilities aimed at promoting environmental sustainability in recent years."

In fact, the government has already been taking actions to subsidise SMEs to adopt the ESG initiative. However, many companies continue to disregard these incentives, choosing not to prioritize environmental governance practices. The interviewee contends, "Under these circumstances, it seems unjustifiable for the government to allocate additional resources, particularly when it leads to minimal positive outcomes."

Ultimately, the challenge lies not only in crafting effective regulations but also in fostering a culture of accountability and genuine commitment to sustainability within the waste management sector. Without a robust framework that encourages real change, the current regulatory landscape may continue to yield only superficial compliance, hindering progress toward a more sustainable future. Thus, addressing these challenges is crucial for both government and industry leaders seeking to create a more environmentally responsible and

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sustainable waste management ecosystem.

**Employee Willingness**

The willingness of employees to engage with ESG initiatives is a vital component in the success of sustainability efforts within organizations. However, this willingness is often overshadowed by several significant challenges. A prevalent issue is that when top management shows little interest in ESG practices, it creates a domino effect, leading to minimal enthusiasm among employees. This disconnection is particularly pronounced in large corporations, where leadership may focus more on immediate financial returns than on long-term sustainability initiatives.

For example, the interviewee working in the technology-driven waste management company broached, "Although our company's primary work lies in offering consultation for other enterprises to plan their waste management initiatives, within our company itself, it does not currently adopt any significant ESG initiatives related to sustainability." He further explained that it is the consequence of the top management having no interest in ESG adoption as it is perceived that it will yield few results.

Not adopting ESG initiatives may just look like a surface-level issue; however, in a deeper context, without strong support from upper management, employees may feel unmotivated to participate in ESG efforts. This lack of urgency can result in a culture where sustainability is not prioritized, limiting the potential for collective action and innovation.

The interviewee working in the company that provides food waste disposal machines emphasized, "We, each person, should do our best within our own abilities. The only limitation is individual capability, but when we unite with a common purpose, it's enough for everyone to contribute." This further proves that teamwork is essential for driving impactful change; however, when leadership fails to champion these initiatives, employees often feel their contributions are unnecessary, further entrenching a sense of disengagement.

Another challenge is the prevailing attitudes towards learning among employees regarding ESG topics. An interviewee noted a common observation, "Many view training sessions as mere formalities rather than opportunities for genuine growth.

Even when companies invest in educational workshops, employees frequently leave with only a superficial understanding of the material. It is also a common observation that employees do not pay attention to the workshop at all." These observations highlight a sentiment that, without concrete incentives or actionable follow-up, employees lack motivation to change their behaviors.

The founder of the recycling company added, "There is a deep-seated preference for convenience and immediate rewards in Hong Kong." Employees often expect direct benefits from their efforts, and when these are absent, interest in ESG initiatives declines. Moreover, organizations themselves frequently struggle with practical implementation, often reducing their sustainability efforts to mere buzzwords. This disconnect can leave employees feeling uninspired; if they perceive that their company lacks a genuine commitment to ESG, their own willingness to engage diminishes.

She also shared her experience conducting a sharing session at a local company. "Despite knowing that employees at this organization tend to respond positively to incentives, such as goodie bags, our team decided to take a different approach. We opted not to offer any incentives during the sign-up process for the ESG workshop, hoping to encourage participation based on genuine interest in the topic."

"Unfortunately, only one person attended the workshop," she then added. "This not only highlights the lack of willingness among employees to engage with ESG educational activities but also underscores the perception that previous mandatory workshops had been meaningless." Such a low turnout suggests that, without tangible rewards, employees may view these sessions as unimportant or irrelevant, revealing a deeper issue regarding the effectiveness of ESG training initiatives. This experience underscores the challenges organizations face in fostering a culture of sustainability and engagement among their workforce.

Additionally, ingrained beliefs pose a significant barrier to changing the perspectives of employees in the workplace on environmental responsibility. Many individuals hold preconceived notions that are resistant to change, which complicates efforts to foster a culture of sustainability among

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employees.

"I think there should be more promotion in the workplace; publicity and education are very important," the interviewee working at the company that provides food waste disposal machines added. "In our company, there are no internal objections to adopting ESG strategies, as the team shares a common vision and values the importance of environmental protection. Our founder often educates others about the importance of reducing food waste but faces challenges in convincing people of the value of such initiatives due to economic factors."

However, this only represents a minority of companies at present. Reality shows that companies often direct their educational efforts towards children, believing that teaching young people will lead to a more environmentally aware future. While this strategy can be beneficial, it does not directly address the need for adult engagement, which is crucial for driving immediate action within organizations.

Ultimately, it can be concluded that the adoption of ESG strategies in local waste management SMEs faces three main challenges: budget and financial constraints, lack of government regulations, and low employee willingness. Addressing these challenges is crucial for local waste management SMEs to successfully adopt and integrate ESG practices into their operations.

## DISCUSSION

After the data collection from the Internet and interviews, we performed analyzes by combining the Literature Review and the Key Findings. The invaluable primary sources from interviews proved the accuracy and viability of our previous research — challenges faced by SMEs in adopting ESG initiatives in Hong Kong. Possible solutions, which are highly targeted at the core issues, are also proposed by a portion of the interviewees. This section will confirm the authenticity of the secondary data from various Internet sources as well as provide feasible and effective solutions to encourage the implementation of the ESG framework among SMEs in Hong Kong.

### Core Challenges

As highlighted in the interviews, the most fundamental reason for SMEs not adopting the ESG framework is the lack of environmental awareness among stakeholders, which aligns with the findings from Literature Review. While the Literature Review emphasized the insufficiency of resources to carry out ESG strategies, the interviews revealed a much deeper and long-standing issue — public awareness and education.

▶ **A Lack of Environmental Awareness among Customers and Businesses**

In the world of business, profitability is a primary goal for most firms. Undeniably, implementing the ESG framework is capital-intensive and requires companies to have basic financial strength. As stated in the Literature Review section, establishing reliable data collection systems and hiring experienced consultants, which are essential in achieving ESG, demand a substantial financial commitment. However, as small-scale businesses, SMEs often lack the ability to generate sufficient capital, which limits their progress in implementing ESG. An interview revealed that it is known that companies may even face losses by focusing on environmental work. Their restricted access to capital limits their ability to invest in ESG initiatives, which are frequently considered non-essential expenses.

Without the incentive of maximizing profit, many

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directors and board members hold a conservative or even discouraging attitude toward implementing the ESG framework, which means they may not give strict instructions and metrics regarding ESG policy, as stated in the Key Findings. Employees who lack environmental concerns and awareness would be more apathetic toward the growing issue. Even when employees attend ESG workshops and training programs, they may not pay attention during such initiatives that offer few tangible benefits, which contributes to "a lack of ESG expertise" that is explicitly mentioned in the Literature Review. Consequently, employees may transition from being unwilling to put ESG into practice, to being unable to do so due to a lack of knowledge. The insufficiency of ESG expertise among employees is linked to the lack of environmental awareness among themselves and customers, whose attitudes and awareness toward ESG may directly affect the profits that SMEs make. Undoubtedly, implementing the ESG initiative has some drawbacks. Although the ESG initiative has the potential to increase profits, it fails to do so at the present stage in Hong Kong. While adopting ESG strategies can benefit their reputation, the motivation is still limited. To make money, the firms have to attract customers in various ways, and adopting ESG does not help – prices of products have to be raised to compensate for the extra expenditure in practicing ESG. Without environmental awareness and a sense of urgency in "saving the planet", customers are unwilling to spend extra money on more expensive products and services.

Customer attitudes toward environmental protection play a crucial role in influencing the impact of ESG in modern economics. If customers do not care about environmental issues, businesses are less likely to prioritize them. A positive consumer attitude toward environmental issues can shift market trends, encouraging more businesses to integrate ESG criteria into their operations. Regions like North America and Taiwan, where there is a strong demand for sustainable practices, have higher adoption rates for ESG initiatives, according to an interviewee. SMEs in those regions successfully implemented ESG

strategies, including utilising sustainable materials, adopting inclusive hiring practices, and reporting ESG progress regularly, with reference to the case study section of the Literature Review. Examples of several overseas waste management SMEs, including Waste Connections, Eco-Cycle, and Waste Management, Inc., can maintain stable operations while implementing ESG strategies. The reason is that ESG strategies improved their reputation and attracted customers with greater environmental awareness. Local customers are willing to pay a higher price for sustainable products, providing the SMEs sufficient capital to sustain their operations and grow.

In Hong Kong, however, the lack of strong customer awareness has limited the direct influence on business decisions; even though the company's waste disposer reduces waste volume and emissions significantly, most consumers remain unaware of its value. Some customers only inquire about ESG initiatives when directly approached, indicating a lack of proactive interest.

The level of eco-friendliness is not foregrounded by consumers in their consumption considerations. The reason is that environmental and sustainable development education has been insignificant in the past several decades. The majority of consumers nowadays, who received education before 1992 when environmental protection was included in the curriculum (Advisory Council on the Environment | Environmental Protection Department, n.d.)[11], may think that buying "green" products and services is something trivial, causing them to prioritize the price and quality of products and services. While Hong Kong formally included environmental protection in its curriculum in 1992, many other developed countries, including the US (Zhang, 2017)[12], Germany (Kaya & Elster, 2018)[13], and Japan (Yamane, 2010)[14], had already begun integrating environmental education into their school systems in the 1970s and 1980s. Hong Kong has been slow in environmental education on the international stage.

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▸ **Unfettered Regulations**

As global environmental issues are developing precariously, presidents and government officials around the world have begun holding conferences to cooperate and cope with the worsening environmental challenges. Apart from education, regulations play a short-term role in urging corporations to enforce ESG strategies. "Legislation would help a lot because people need to be governed," stated the interviewee, who is a director of a food waste disposal machine production firm. Merely depending on discipline is not enough. Hong Kong is behind many other countries. The interviewees shared a similar observation regarding local ESG reporting regulations — the lack of consequences for failing to meet these reporting requirements has led to minimal accountability. This resonates with the Literature Review — because many SMEs operate in industries where ESG reporting is voluntary, unlike larger companies that often face mandatory disclosure rules; this absence of regulatory pressure leads them to question the value of investing time and resources into sustainability initiatives. (Leempoel, 2023)[15] On the other hand, other economies like the EU's ESG reporting required for listed companies (ESG Reporting Required for Listed Companies - Russell Advocaten Amsterdam, 2023)[16] and UK's TCFD and related UK reporting regulations (ICAEW, 2024)[17] appear to have implemented mandatory climate or broader ESG reporting requirements for certain listed companies earlier than Hong Kong's comprehensive ISSB-aligned mandate (Roadmap on Sustainability Disclosure in Hong Kong: Ambition Assurance Enablement, 2024)[18].

▸ **Abortive Inducements**

Aside from regulations, financial incentives are essential to encourage SMEs to implement the ESG framework. The Hong Kong government has been providing various incentives, primarily in the form of funding schemes and grants, including the Green and Sustainable Finance Grant Scheme. Administered by the Hong Kong Monetary Authority (HKMA), this scheme provides subsidies to eligible bond issuers and loan borrowers to cover expenses related to issuing green and sustainable bonds and obtaining external review services. However, the effectiveness of the subsidies is questionable. In 2023, the total expenditure from the Hong Kong Environmental Protection Department General Revenue Account reached $7.739 billion. Notably, 39.3% of this budget — equating to approximately $3.042 billion — was dedicated to the operation of waste management facilities. (Environmental Protection Department, 2025)[19] This significant financial commitment highlights the government's efforts to foster sustainability through initiatives like the GREEN@COMMUNITY network.

Despite this substantial investment, many companies deem that the incentives are still "not enough" or continue to disregard them, choosing not to prioritize environmental governance practices. This perspective raises important questions about corporate responsibility and the effectiveness of existing government initiatives in encouraging sustainable practices among businesses.

▸ **Summary of Core Difficulties**

Looking ahead, raising public awareness of ESG is essential for Hong Kong's economy. The current state of inadequate and slow education means consumers are less inclined to buy sustainable products and services. This directly impacts SMEs, making them hesitant to spend additional capital on ESG initiatives because they fear that the resulting price increases will drive customers away or even lead to business failure. Despite local government support and subsidies, SMEs often remain unwilling to undertake ESG work. Financial incentives and regulations offer only a surface-level solution; the core issue is the lack of fundamental awareness and passion for environmental protection.

**Educational and Political Solutions**

Addressing environmental challenges requires a multi-pronged approach that includes enhanced environmental education, alongside intensified regulations and incentives.

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▶ **Enhancing Curriculum**

Environmental education serves as a crucial long-term measure aimed at raising awareness among the younger generation, enabling them to proactively engage in sustainable development in the future. While governments and educators acknowledge the importance of integrating environmental protection into the current curriculum and sustainability knowledge exists in textbooks, the limited observable results suggest that current educational methods are not sufficiently effective.

Recognizing this gap, some concerned businessmen are taking independent action within the educational sector. For example, the director of a food waste processing firm highlighted the need for greater emphasis, stating during an interview that "there should be more promotion; publicity and education are very important." He is actively reaching out to school principals, seeking to engage directly with students in local schools through talks and ESG campaigns. These efforts aim to influence the next generation to become more active and aware regarding ESG principles.

However, the impact of these individual business initiatives to promote ESG education is limited without the support of government authorities. It is essential that the government collaborates with educational organizations to design comprehensive sustainability education programs that go beyond the current curriculum, for schools. The content of this education should emphasize the importance of ESG and sustainable development, clearly explaining how these issues directly affect the students' generation and detailing the consequences of inaction. Furthermore,
the curriculum should include practical knowledge, demonstrating how students can implement ESG principles, such as utilizing sustainable materials in manufacturing processes or promoting diverse employment practices.

This comprehensive approach will help students grasp the urgency of sustainable development and learn practical methods for achieving it.

This understanding is vital, as these students will eventually gain influence and play a significant role in shaping future governance and the world order. To ensure widespread adoption and impact, the sustainability curriculum should move beyond mere encouragement and be legally mandated, requiring all local schools to provide this essential education regardless.

Ideally, if the public were sufficiently aware of sustainability issues, consumer demand would naturally drive the purchase of sustainable products and services. This would, in turn, incentivize SMEs to prioritize ESG principles without needing extensive regulations.

▶ **Robust Regulations**

However, in societies where public awareness of ESG is minimal, regulations become a necessary and more immediate measure. A known challenge for SMEs is defining clear Key Performance Indicators (KPIs) for their ESG efforts. To address this, the government could set clear objectives and standardize indicators for SMEs to follow. Non-compliant SMEs could then face penalties.

Currently, corporations (and potentially larger SMEs) are often required to submit annual ESG reports. Yet, the quality and reliability of these reports are frequently unreliable or unsatisfactory, often reflecting a superficial or perfunctory approach by SMEs. Implementing stricter standards and enforcement requirements could compel SMEs to integrate ESG more seriously into their products and services. However, this regulatory approach does not tackle the fundamental problem: the lack of public awareness. This means SMEs might adopt sustainable practices passively, rather than proactively driving sustainable development, which is not the most encouraging outcome.

▶ **Financial Incentives**

Another potential short-term solution is increasing financial subsidies for SMEs. The government could offer baseline subsidies to help SMEs adopt ESG frameworks, ensuring they
have the necessary capital for sustainability initiatives. Providing incentive-based funds could

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also attract SMEs to invest in ESG, appealing to their primary concern of profitability. For instance, additional subsidies could be awarded to SMEs that meet specific ESG criteria as a form of reward. Despite its effectiveness, it is costly. This measure is not quite applicable in the financial circumstances of Hong Kong, which is facing a serious budget deficit in recent years. Such a high amount of funding is unlikely to be issued in the near future.

▶ **Summary of Suggested Measures**

In conclusion, tackling environmental challenges and fostering ESG adoption effectively demands a synergistic approach that integrates enhanced environmental education, robust regulations, and strategic incentives. While comprehensive sustainability education is paramount for cultivating long-term, intrinsic motivation towards ESG principles, the current lack of widespread awareness necessitates more immediate interventions. Regulations, including standardized KPIs and stricter enforcement, become essential to ensure baseline compliance and accountability. Financial incentives offer another potentially powerful tool, though their feasibility can be constrained by fiscal realities. Applying this framework specifically to the challenges local waste management SMEs face in adopting ESG strategies within Hong Kong highlights the need for these comprehensive measures, integrating enhanced ESG education, robust regulations, and potentially intensive financial support and incentives. However, targeting the most fundamental issue of awareness and long-term change, the most feasible approach is to emphasize the value of ESG in the curriculum, alongside immediate regulatory support, balancing the effectiveness and financial restrictions in the context of Hong Kong. This balanced strategy aims to use immediate regulatory measures to bridge the current gap while simultaneously building the essential educational foundation for a future where sustainable practices are deeply embedded within both societal values and business operations, driven by genuine commitment rather than mere compliance.

TEAM 6

**EVALUATING THE CHALLENGES LOCAL WASTE MANAGEMENT SMES FACE IN ADOPTING ESG STRATEGIES: INNOVATIVE SOLUTIONS AND BEST PRACTICES FOR OVERCOMING BARRIERS**

# CONCLUSION

Our study aimed to explore the challenges and imperatives surrounding ESG reporting in SMEs. Our findings show that SMEs often struggle to adopt ESG practices due to financial constraints, lack of expertise, and insufficient regulatory pressure. Importantly, these challenges reduce their capacity to leverage the potential benefits of ESG, such as enhancing business reputation, improving sustainable access to financing, and making operations more efficient and cost-saving.

Our most significant findings indicate that despite the growing importance of ESG, many SMEs remain hesitant to engage in these practices. This reluctance is largely driven by the doubts regarding tangible benefits provided by ESG initiatives, and a lack of awareness among stakeholders regarding the long-term benefits and knowledge of ESG principles and sustainability. This paper makes a valuable contribution by highlighting the pressing need for a change in the deep-seated beliefs and preferences within SMEs and the importance of supportive regulatory frameworks.

Rooted in a lack of environmental awareness among customers and insufficient government support, the primary challenges faced by SMEs include budget and financial constraints, inadequate government regulations and funding, limited employee willingness, and a lack of knowledge. The practical implications of our research are significant. Addressing environmental challenges requires a multi-pronged approach that includes enhanced environmental education, regulatory measures, and financial incentives.

By integrating sustainability into the educational curriculum, we can cultivate future demand and expertise, while also ensuring that employees understand the value of ESG initiatives. Governments should implement clear regulations and establish performance indicators for SMEs to incentivize compliance. Additionally, providing financial support can help alleviate budgetary constraints, enabling SMEs to adopt ESG practices more readily. This integrated strategy aims to transition local waste management SMEs from enforced adherence to genuine leadership in sustainable practices.

However, our study is limited by the limited number of participants and tight time constraints, which restricts the ability to generalize our findings. Despite this limitation, our study makes a meaningful contribution to the discussion of ESG initiatives regarding SMEs, emphasizing the need for collaborative efforts between businesses, government, and educational institutions.

Our qualitative research approach was appropriate for this problem, as it allowed for in-depth insights into the lived experiences of industry stakeholders, shedding light on the major complexities that businesses face during the adoption of ESG strategies. This study provides an in-depth perspective on the challenges and opportunities that SMEs face in their journey toward sustainable practices.

**EVALUATING THE CHALLENGES LOCAL WASTE MANAGEMENT SMES FACE IN ADOPTING ESG STRATEGIES: INNOVATIVE SOLUTIONS AND BEST PRACTICES FOR OVERCOMING BARRIERS**

TEAM 6

# 📖 BIBLIOGRAPHY

[1] 2024 Annual Report – Forging Forward. (2024, November 25). Southeast Alberta Chamber of Commerce.
https://www.southeastalbertachamber.ca/news/annual-reports/2024-report/forging-forward/

[2] Advisory Council on the Environment | Environmental Protection Department. (n.d.). Www.epd.gov.hk.
https://www.epd.gov.hk/epd/english/boards/advisory_council/ace_paper9903.html

[3] Annual Reports. (n.d.). Waste Connections, Inc. | Investors.
https://investors.wasteconnections.com/annual-reports

[4] EPD Expenditures | Environmental Protection Department. (2017). Epd.gov.hk.
https://www.epd.gov.hk/epd/english/resources_pub/spending/spending.html

[5] ESG reporting required for listed companies - Russell Advocaten Amsterdam. (2023, December 7).
https://www.russell.nl/en/publication/esg-reporting-required-for-companies/

[6] Firms face challenges in bridging ESG policy and implementation. (2024). Chinadailyhk.
https://www.chinadailyhk.com/hk/article/591149

[7] Greggwirth. (2025, February 18). Addressing the key challenges for SMEs in sustainability & reporting - Thomson Reuters Institute. Thomson Reuters Institute.
https://www.thomsonreuters.com/en-us/posts/international-trade-and-supply-chain/smes-sustainability-reporting/

[8] ICAEW. (2024). TCFD and related UK reporting regulations. Www.icaew.com.
https://www.icaew.com/technical/corporate-reporting/non-financial-reporting/tcfd-and-related-uk-reporting-regulations

[9] Investor Relations | Waste Management. (n.d.). Investors.wm.com.
https://investors.wm.com/

[10] Jhaxell, & Jhaxell. (2024, January 3). Navigating ESG reporting for SMEs: Strategies and challenges. FinTech Global.
https://fintech.global/2024/01/03/navigating-esg-reporting-for-smes-strategies-and-challenges/

[11] Kaya, V. H., & Elster, D. (2018). German Students' Environmental Literacy in Science Education Based on PISA Data. Science Education International, 29(2).
https://www.icaseonline.net/journal/index.php/sei/article/view/46

[12] Leempoel, S. (2023, December 21). ESG Reporting for SME: What to Expect & Challenges. Www.greenomy.io.
https://www.greenomy.io/blog/esg-reporting-smes-what-to-expect-and-challenges

[13] Marketing. (2024, November 20). 4 ESG Reporting Challenges SMEs should never Underestimate. 47Billion.
https://47billion.com/blog/4-esg-reporting-challenges-smes-should-never-underestimate/

[14] Roadmap on Sustainability Disclosure in Hong Kong : Ambition Assurance Enablement. (2024).
https://www.fstb.gov.hk/fsb/en/publication/report/docs/FSTB_Roadmap2024_eBooklet_EN.pdf

[15] The ESG Institute. (2023, August 14). https://www.the-esg-institute. Linkedin.com.
https://www.linkedin.com/pulse/10-effective-strategies-smes-boost-esg-metrics-theesgin stitute/

[16] Yamane, E. (2010). Teaching about Environmental Issues in Japan. Association for Asian Studies.
https://www.asianstudies.org/publications/eaa/archives/teaching-about-environmental-issues-in-japan/

[17] Zhang, D. (2017, May 5). The Roots of Environmental Education in the US – Educ 300: Education Reform, Past and Present. Trincoll.edu.
https://commons.trincoll.edu/edreform/2017/05/the-roots-of-environmental-education-in-the-us/

# 7 WHY, AND HOW SHOULD WASTE REDUCTION BE CARRIED OUT AT THE SECONDARY SCHOOL LEVEL

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## ABSTRACT

This investigation on sustainability in the environmental aspect within secondary schools in Hong Kong uncovers several problems about the excessive disposal of solid waste. Through the conducting of a survey with a sample size of 100 secondary school students, and 2 one-on-one in-depth interviews with teachers from different secondary schools, this paper finds that the recycling of paper (62%) and plastic waste (25%) are deemed most dire and necessary by secondary school students from Secondary/Form 1 to 6, and on-campus observations and interviews with teachers reflect that waste reduction is currently ineffective in secondary schools.

This paper reviews currently existing challenges in waste reduction in Hong Kong secondary schools, and the significance of waste reduction at schools. In addition, suggestions on possible solutions to improve the efficiency of waste management at the school level are made.
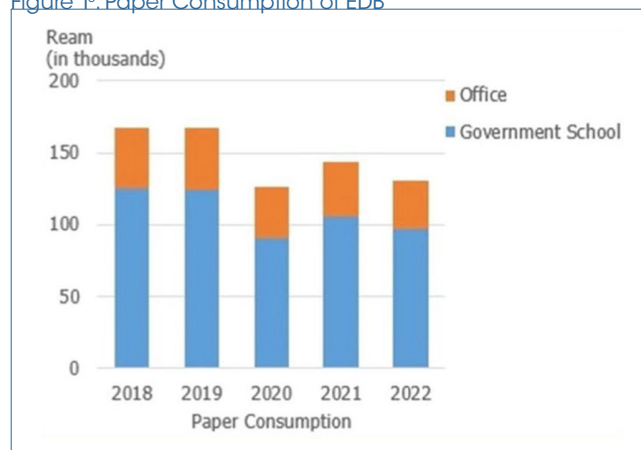
Photographs from St. Stephen's College



## INTRODUCTION

Ensuring sustainable consumption and production is key to sustaining the livelihoods of current and future generations, and is a key part (Goal 12) of the United Nations' Sustainable Development Goals[1]. Reducing the amount of waste production is important on both global and local levels as the world's current consumption patterns are quickly depleting natural and land resources.

Figure 1[6]. Paper Consumption of EDB



According to the Hong Kong government's Environmental Protection Department (EPD), the city's existing landfills and upcoming extensions, even when supported by government waste reduction and recycling initiatives and other waste treatment infrastructure, are only expected to meet the population's waste disposal needs up until the 2040s, reflecting the city's dire need to alleviate the stress on the saturated landfills that are nearing their full carrying capacity[2]. Hong Kong's average daily quantity of solid waste disposed of at strategic landfills is 15,783 tonnes per day (tpd)[3]. The production of such great amounts of waste weighs down sustainability efforts in the city, and is reflected by how the 'Environmental' sub-index in the Hong Kong Trade Development Council's Environmental, Social, and Governance Index is the lowest (63.8) out of the three sub-indices[4].

While Hong Kong's ESG and environmental sustainability efforts in terms of markets and businesses have been thoroughly evaluated, the situation at the city's secondary school level has been scarcely investigated. The amount of waste produced by secondary schools is not insignificant – EDB consumed about 130,000 reams of paper in 2022[5]. This is equivalent to a rough estimate of 7,800 trees in one year[7].

Based on personal observations across different secondary school campuses, the current environmental sustainability initiatives in Hong Kong schools do not receive strong enthusiasm from students. Our study aims to explore more on the reasons behind why environmental education is not sufficiently effective currently, and how methods of waste reduction at the school level can be improved.

## LITERATURE REVIEW

Historically, Hong Kong consistently showed lower levels of pro-environmental attitudes than other societies (Lee, 2000). A Hong Kong Baptist University article titled "Environmental Attitudes and Behaviors among Secondary Students in Hong Kong" (Chan, 1996) suggests educational reform in 2009 as a positive effect on students' environmental awareness, highlighting liberal studies as a key way for students to learn about environmental sustainability in Hong Kong. Education, as well as the promotion of environmental sustainability, such as through waste reduction, is crucial for the development of sustainable societies and cities.

Environmental education has proven to be effective. Shallcross, Robinson (2007) and Pauw et al. (2015) find that environmental education (EE), education for sustainability (EfS), and education for sustainable development (ESD) have a positive impact on students' sustainability consciousness. Tuazon et al. (2024) shows that EE empowers institutions to adopt more long-term sustainable practices, enhancing environmental awareness, and encouraging academic and community participation in environmental initiatives. This shows the importance and effectiveness of education on environmental sustainability.

Additionally, Wing (2021) emphasizes the need for optimisation in different fields to aid the process

of ESD through identifying environmental issues and designing educational programmes with action-learning strategies. Phiri (2023) suggests that effectiveness, or optimisation of EE implementation can be enhanced by shifting the focus of EE on how to promote practices that result in avoiding or reducing waste generation, rather than on what to do with waste after it has already been generated. In other words, promoting waste reduction is much more important and effective at promoting environmental sustainability than waste management.

Safaya (2022) finds that pro-environmental behaviour is most influenced by field trips and personal experiences in natural environments, highlighting the importance of establishing a connection between the student and nature in order to enhance environmental consciousness.

To summarize, waste reduction at the school level is an important aspect of environmental education, and helps institutions and communities become more environmentally sustainable, showing why it is important for waste reduction to be promoted at the school level.

# WHY, AND HOW SHOULD WASTE REDUCTION BE CARRIED OUT AT THE SECONDARY SCHOOL LEVEL

## METHODOLOGY

As part of our research on the views of environmental sustainability in Hong Kong secondary school students, an online survey was conducted to investigate which materials' recycling secondary school students feel are most significant, necessary, and urgent. The survey targets F.1-6 students studying in 4 schools (Carmel Alison Lam Foundation Secondary School, Cheung Chuk Shan College, Hon Wah College, St. Stephen's College) across Hong Kong. A total sample size of 100 students allows for diverse results and opinions.
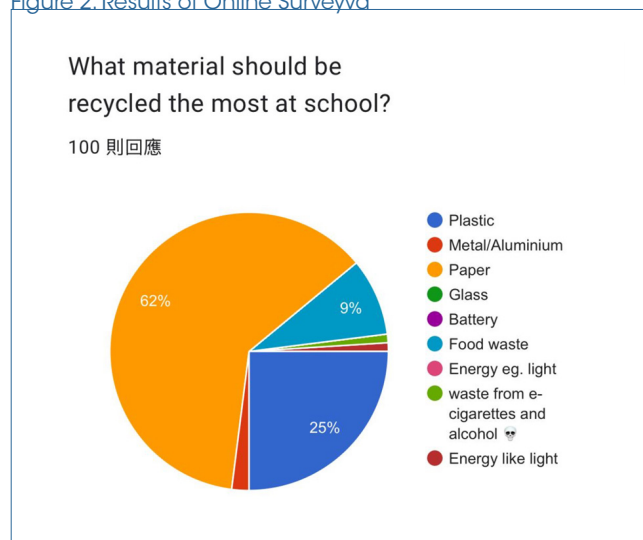
Additionally, we conducted 2 one-on-one interviews with teachers from Carmel Alison Lam Foundation Secondary School and Cheung Chuk Shan College, requesting their input on the situation of student motivation to reduce the amount of waste generated at school. The interview questions are as follows:

- Why do you believe waste reduction is crucial in schools?
- What impact do you think it has on students?
- How do you incorporate waste reduction education into your curriculum?
  - ▸ Can you share specific lessons?
- What challenges do you face in implementing waste reduction practices in your school?
  - ▸ Are there any limitations within the school system?
- How do students respond to waste reduction initiatives?
  - ▸ Have you observed any changes in their behavior?
- What role do you think school administration plays in promoting waste reduction?
  - ▸ Are there policies that support or hinder these efforts?.
- Can you suggest effective strategies for reducing waste in lunch programs or school events?
  - ▸ What has worked well in your experience?
- How do you think community involvement can enhance waste reduction efforts in schools?
  - ▸ Have you collaborated with local organizations?
- What resources or support do you need to improve waste reduction initiatives?
  - ▸ Are there tools or training that would help?
- How does the current waste management system in Hong Kong impact your school's efforts?

- ▸ Are there regulations that pose challenges?
- What future changes would you like to see in your school regarding waste reduction?
  - ▸ How can your school work together to achieve these goals?

## RESULTS

Figure 2. Results of Online Surveyva



According to the survey results from students studying in four different schools in Hong Kong, the majority of respondents (62%) think that paper should be recycled the most at school.

This is followed by plastic, of which 25% of the respondents think that it should be recycled.

Other materials, like food waste, metal, waste from e-cigarettes and alcohol were not considered urgently needed to be recycled at school, as only a minority of students think that they should be most recycled – not more than 10% of the respondents selected each option. Hence, our study will focus on methods to reduce paper and plastic waste at school level.

Our team has interviewed two teachers, Ms. Lo from Carmel Alison Lam Foundation Secondary School, and Mr. J. (an environmentalist and an experienced teacher) from Cheung Chuk Shan College.

When inquiring about how students responded to waste reduction initiatives focusing on plastic and

paper, it was found that one of the big challenges is the mindset of students. One misconception between students is that they only need to think for themselves, and not for the environment, to which the situation is not optimistic at all. For instance, when students are just a little bit hot, they want to turn on the air-conditioner. Students also think that they should have the right to use the air conditioner freely as they say that they have paid for their school fees.

Another challenge is that students are lazy. They usually buy plastic bottle drinks rather than bring their own bottles, as they think it is childish for doing so. Also, according to Mr J, students have to change their habits of simply throwing recyclable materials into the garbage bin, as they should separate them into groups and handle them by placing them into various recycling bins.

## DISCUSSION

Hong Kong schools face significant obstacles in implementing effective waste reduction. One such obstacle is limited student awareness. Students generally lack the intention to actively promote waste reduction and often dispose of recyclable materials improperly by mixing them with general waste. This behavioral barrier suggests that merely providing recycling bins and policies is insufficient without fostering a strong environmental consciousness among students.

Resource limitations also pose a substantial challenge. Mr. J noted the shortage of manpower and funding to sustain comprehensive waste reduction programs. While the school has implemented the 'Bring Your Own Device' Scheme, which successfully reduced paper waste by distributing notes electronically, other policies lack enforcement and support. The school administration has provided all available resources, but without additional funding or infrastructure improvements, further progress is constrained.

Hence, the lack of student awareness or significant manpower and resources within schools prove to be the biggest inhibitor in waste reduction promotion.

## RECOMMENDATIONS

Students Upon our literature review and by analysing our findings, we have made some suggestions based on successful environmental awareness increasing examples from other schools around the world.

For instance, the Environmental Leaders of Tomorrow project in the Greater Toronto Area combines classroom learning with outdoor experiences to promote ecological literacy, healthy living, and community engagement among students.

Public schools in Denver, USA actively involve students through sustainability curricula, outdoor learning experiences, and work-based learning opportunities. In 2023-24, 19% of work-based learning participants engaged in sustainability projects and sustainability internships. The district hosts an annual Climate Summit and supports 78 active school gardens and multiple EcoSchools. This allowed Denver Public Schools (DPS) to shift the school district's culture toward sustainability and environmental justice, embedding these values into district-wide planning and operations, making it widely recognized as a national leader in sustainability and climate action. DPS received awards such as the 2025 Best of Green Schools Award in the School System category from the Center for Green Schools, which honors significant strides in sustainability in education nationwide, showing that hands-on learning experiences are highly effective in promoting waste reduction.

We suggest that students design their own recycling bins with recyclable materials (sustainable) especially plastic and paper. incorporating school resources. This way, students are able to create visually appealing and clearly labeled recycling bins to improve recycling rates on campus.

Another way of increasing student participation in sustainability programmes at school is allowing schools to partner with local recycling facilities, such as the locations of the Hong Kong government's Green At Community recycling scheme. for proper waste management. This allows students to gain material prizes as rewards for their efforts in recycling, and can increase the awareness of environmental issues among students and staff. Field trips to recycling centres can be organised; in Hong Kong, places such as Mil Mill 喵坊 (紙品回收)

Additionally, with reference to Safaya (2022) in the literature review, students can participate in field trips to recycling facilities such as Mil Mill, a recycling facility that helps reduce the waste for paper and metals in Hong Kong. This enhances their perception of their impact on the local community and is highly effective in fostering environmental awareness.

## CONCLUSION

The challenges faced by secondary schools in Hong Kong regarding waste reduction are multifaceted. By implementing effective waste reduction strategies within schools, students not only can contribute positively to their local environment, but can also enrich their educational experiences, creating a cleaner, healthier community that promotes sustainable living. By making students design their own sustainability measures, partnering with recycling facilities, and providing hands-on learning experiences such as having students go on field trips to enhance environmental awareness, schools can play a crucial role in fostering a sustainable future.

## APPENDIX

1    "Sustainable Consumption and Production." United Nations, United Nations, www.un.org/sustainabledevelopment/sustainable-consumption-production/. Accessed 16 May 2025.

2    "Problems & Solutions." Environmental Protection Department, www.epd.gov.hk/epd/english/environmentinhk/waste/prob_solutions/landfill.html. Accessed 16 May 2025.

3    Environmental Protection Department. "Monitoring of Solid Waste in Hong Kong." Waste Reduction, www.wastereduction.gov.hk/sites/default/files/resources_centre/waste_statistics/msw2023_eng.pdf. Accessed 16 May 2025.

4    Tsang, Alice, et al. "HKTDC ESG Index 2025: Preliminary Findings." HKTDC Research, research.hktdc.com/en/article/MTkzNzM2NzUzMg. Accessed 16 May 2025.

5,6  Education Bureau. "Environmental Report 2022." Education Bureau, www.edb.gov.hk/attachment/en/about-edb/publications-stat/environmental-report/Environmental%20Report%202022_EN.pdf. Accessed 16 May 2025.

7    "How Much Paper Does One Tree Make?" Muntons , www.muntons.com/success_story/how-much-paper-does-one-tree-make/. Accessed 16 May 2025.

8    Winnie, Mui So Winnie. "Pathway of Optimisation – A Case of Education for Sustainability in Hong Kong." Toronto, 2021, pp. 105–121.

9    Safaya, Smriti. "Environmental Citizen Science and Action in Hong Kong Schools." White Rose eTheses Online, Sept. 2022, etheses.whiterose.ac.uk/id/eprint/32201/1/Smriti_Safaya_206035161_Environmental_citizen_science_and_action_in_Hong_Kong_schools.pdf.
10 "Environmental Attitudes and Behaviors among Secondary Students in Hong Kong." The HKU Scholars Hub, hub.hku.hk/bitstream/10722/230474/1/Content.pdf. Accessed 16 May 2025. =
https://docs.google.com/presentation/d/1TOfbMtfiKG5d2WAs6kK-9PSs_4NspRnbvC7rdbRaB_as/edit?usp=sharing

# 8 THE EFFECTIVENESS OF THE "STRIVE AND RISE PROGRAMME" ON PROVIDING LEARNING OPPORTUNITIES FOR THE UNDERPRIVILEGED STUDENTS

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## INTRODUCTION

The purpose of this study is to examine the usefulness of the "Strive and Rise Programme" on increasing the amount of extracurricular learning opportunities received by the underprivileged students.

According to the Hong Kong Poverty Report 2024 done by Oxfam, in the first quarter of 2024, the overall poverty rate of Hong Kong reached 20.2%, which means that more than 1.39 million of Hong Kong people were in poverty. The government had been implementing the Comprehensive Social Security Assistance Scheme and Social Security Allowance Scheme to address the problem.

Rencently, we have been volunteering in different charity activities to serve the community and to meet participants of the "Strive and Rise Programme". Through these volunteering activities, it is observed that many poor families are suffering from intergenerational poverty despite the effort paid by the government on tackling poverty. We acknowledge that education plays an important role in terms of increasing social mobility, offering children from disadvantaged backgrounds opportunities to enhance their competitiveness and hence get rid of intergenerational poverty.

The government has been introducing programmes like "Strive and Rise" to address these inequalities by providing support, mentorship and allocating resources to the teenagers from underprivileged families. In the last few years, the delivery of practical policies on addressing the intergenerational poverty problem in Hong Kong has been a topic that the government is interested in. Studies have shown that lack of information and resources are the main factors causing the problem. It is therefore suggested that the government should invest more capital resources to improve the services and ensure the fair distribution of resources for all children's development opportunities.

However, there are very few publications that have discussed the effect of the "Strive and Rise Programme" and its contribution to addressing intergenerational poverty, but for the continuation of the programme, a review is certainly needed. Therefore, we aim to fill in the research gap of the effectiveness of the programme and to provide more insights of the topic for reflection.

The remainder of the paper is organized into 5 sections: Section 1 is the literature review that introduced the publications that had conducted investigations on intergenerational poverty and how the government can address the problem. Section 2 is the research method that outlined the research method that we had used. Section 3 is findings which highlighted our research outcomes while Section 4, the discussion, further develops the data into ideas for improvement. Finally, Section 5, the conclusion, we round up the whole paper.

## LITERATURE REVIEW

A research(HKFYG, 2005) has been done to investigate the impact of education on underprivileged children, focusing on the livelihood of young people from low-income households in Hong Kong. The report has shown that students from low-income families tend to consider tuition fee as an important factor in pursuing further studies and their families' financial background diminishes their chances for learning and life exposure. Showing that the poor students enjoy less opportunity due to their background and lack of adequate support.

Parents as an important factor of children's growth, parents of youths from low-income families are shown to be less educated, and are more likely to be a non-skilled labour or even unemployed. 30% of the students also reported that their father has been absent from his family role. With an absence in one of the main sources of capital, the financial burden is then spread between the mother and children. With the lack of skills of the mother and the lack of time of the children, family expenses became unbearable and the family is now identified as a "low-income family".

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The students come from low-income families and non-low-income families are likely to enjoy the same experience in school, however, those students with poor backgrounds do not engage as much as those from non-low-income families do. The research has further shown that even though the education provided for the students are more or less the same but in terms of opportunities and extracurricular activities, students from poor families lack access to these resources compared with those from non-low-income families.

Another research(HKFYG, 2007) had pointed out that a specific proportion of teenagers was usually poorly paid due to an insufficiency in education level and expertise. These "three low" young labourers, having an educational attainment of Form 3 or below, had barely any advanced knowledge or skills to draw the attention of employers. With a low competitiveness of high-paid positions, they often ended up with a monthly salary below $5000. With most of the teenagers dropping out because of "performing poorly in school", the government was recommended to strengthen the counselling service for junior students. From providing additional support from the professionals about career decision-making, this aims to reattach the teenagers to their academic path and to raise their incentive of studying.

Another research(兒童權利關注會, 2011) has pointed out that the subsidy provided by the government is not sufficient and cannot cover the numerous tuition fee. This lead to a lack of education opportunities for low-income families. The financial limitations create abstractions, such as shortages in hardware devices, or vacancies for experienced tutor for guidance through difficulties. Some families have to delay the children's enrollment in school which deprives the equal education right of the underprivileged children. The insufficient financial budget and resources has also limited their education opportunities and negatively affected their academic performances. And the students from low-income families seldom attend after school activities and lack social interaction with others. They mostly spend time solely at home, eliminating the chances to develop their relationships with others, causing a negative impact on the development of self-esteem and self-confidence. With a lack of development of emotions, knowledge and social skills, they tend

to have lower self-expectations and hence have a lower will to improve their quality of life.

To overcome these problems, the government is recommended to update its policies. By investing more capital resources to this aspect, new regulations such as a central database of children could be established. The database would collect data about underprivileged children to show the gaps of current policies and actual needs of the youths. Also being an assistant to the other departments on further investigation of future policies, this aims to improve the quality of services and ensure the fair distribution of resources for all children's development opportunities.

The use of present resources such as public libraries should also be maximised to provide an immediate solution for the lack of learning space for students. Extra opening periods of the public libraries and the attached study rooms provide high quality study environments for the needies after school. The collaboration between the government and other private NGOs and schools are also feasible in supporting students with after-school counselling assistance, computer rental services, and act as a child care centre for them to interact and create bonds with others. These additional study areas are especially critical in long holidays. Not only introducing them to a suitable environment for studying, but also providing them with extra technological tools to enhance the effectiveness of completing work.

## RESEARCH METHODS

**Qualitative Research:**
Qualitative research is used to enhance the in-depth understanding of the "Strive and Rise Programme". We conducted several inspiring interviews with both students and parents who had joined the programme and received precious feedback. With the opportunities to work with the families face-to-face, we get to truly understand the pros and cons of the programme and how much it has positively impacted them. By using qualitative research as our research method, we collected rich, condensed first-hand information that quantitative research could not reach. In-depth conversations and vivid description of the participants lead us to a clear understanding of

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the programme and a further development on our topic. We truly understand their excitement of experiencing something new and were touched by their passionate sharing.

By analysing the experience and perspectives of different participants, we get to listen to realistic difficulties that the families had faced and figure out ways to improve the services quality and the effectiveness of the "Strive and Rise Programme". Such as the lack of feedback channels and limited time slot options available, these are major loopholes that the organizer of "Strive and Rise" tend to miss that are now discovered and ready to be settled.

Through detailed interviews, we get to know the satisfaction level of the families of the program, and also learn the specific reasons behind the good reviews, in general. They highlighted that "Strive and Rise" provided them opportunities to experience new activities, and connect to people that they would not originally have a chance to bond with. One of the students also emphasise that he met a caring tutor that they created deep, unbreakable bonds. The tutor kept in touch with him an even participated in his chosen extracurricular activity, running, providing him with both physical and mental support.

**Interviews:**
We had interviewed four different families who had their children attend the "Strive and Rise Programme". The first interviewed family is a single-parent family with no income and living in a subdivided flat. We had interviewed the father and an 11-year-old girl studying in secondary school. The second family we interviewed is a single-parent family who live in public housing with two brothers who attended in the "Strive and Rise Programme". The third family we had interviewed is a single-parent family that lives in a subdivided flat with a son who has mental health issues and had attended in the "Strive and Rise Programme. The last family we had interviewed is a single-parent family who had a daughter studying in secondary school that had attended the "Strive and Rise Programme".

## FINDINGS

**The "Strive and Rise Programme":**
The Strive and Rise Programme" is an one-year intensive foundation programme which is divided into 2 parts, the compulsory training sessions and the interactive programmes that the mentees can apply for free. The compulsory training sessions are made up of three basic training, Life planning, Capacity building and Financial Planning. After attending these compulsory sessions, the mentees will be given $5000 that must be used for study purposes only. For the interactive programmes, the mentors must meet with the mentees at least 12 times. The officials of the Strive and Rise Programme will announce upcoming activities constantly and the mentees can apply the activities that they are interested in. However if there are too many mentees applying for the same activities, the programme will draw lots to make final decisions.

Significance of the "Strive and Rise Programme": The programme was praised for providing various activities that offered the mentees broader horizons and greater extracurricular learning opportunities to promote their all-rounded development. Activities like visits to Auxiliary Medical Service Headquarters, exchange trip to Wuhan and baking workshop had aroused the mentees' interest in different criteria that they had never seen. These interesting experiences had intrigued their interest in certain aspects, guiding the mentees to find out their dreams by experiencing different new opportunities.

The relations between the mentors and the mentees is also one of the highlights of the programme. The younger brother from the second interviewed family had said that he had built a deep relationship with his mentor, they had been contacting each other constantly even after the programme ended, his mentor had also promised to go to the running competition that the interviewee is going to race for and cheer for him. The interviewee said that the programme can not only bring monetary and resources support, but also provide a platform for the students to develop their social network.

**Limitations of the "Strive and Rise Programme":**
The schedule arrangement of the programme is generally poor. All the families that had attend-

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ed the "Strive and Rise Programme" had highlighted that the schedule arrangement was mainly clustered on Saturday, which made them harder to attend the programmes provided as they had already planned many activities on Saturday, such as going to church and tutorial classes. One stated that they are dissatisfied with the course planning as they cannot attend classes interested in due to the busy schedule on Saturday. Arranging classes on non-Statutory Holiday will disrupt the planning of the mentees and their availability would remain low.

Another limitation is the lack of channels for the mentees to reflect their experience and poor communication between the mentees and the programme. Students can only reflect their thoughts through filling out the questionnaire given after attending the sessions, however, those who cannot arrange their schedule to attend the courses had no channel to reflect themselves. One of the interviewees stated that they cannot reflect their opinion to the organizer of the programme efficiently, as they can only communicate with the social worker in charge, but cannot review to the organizers of the programme directly. The communication between the officials and the mentees is insufficient and inefficient. Another interviewee who had two sons both attending the programme, said that when the officials sent her the result of lots drawing, there was no name on it, which troubled her a lot. At the same time, another interviewee said that she didn't notice the existence of the Strive and Rise Programme's app, making her miss out on plenty of activities. Nevertheless, the interviewee had also stated that she had never attended the programmes offered by the other social organizations that sound attractive and desirable as the programme officials have never informed her. Therefore, the programme choices for them were limited and they cannot attend classes they were engaged in.

It is also noteworthy that the sessions offered by the programme are too shallow. Many programmes, namely the financial planning course, the course is too general and they have already attended similar classes in school. Furthermore, the four families had all stated that the activities provided are mainly focused on experiencing but not learning. There is a lack of a series of courses for students to learn some useful skills such as baking and drawing. Attending some visits and experience workshops is too general and far from enough for the students to have a full insight of the jobs and what's behind them.

**The Alumni Club:**
The Strive and Rise Programme had also introduced a follow-up programme to further support the mentee's all-rounded development. The alumni club was therefore set up to provide adequate support . All the mentees graduated from the Strive and Rise Programme will automatically become a member of the alumni club for 3 years. Same as Strive and Rise, the alumni club would announce some activities from time to time and encourage the alumni to apply for, such as the lego experience workshop and Taiwan trip. Other than these kinds of short-term workshops or experience, the alumni club also offers the mentees various long-term courses, for instance, the choir and the running team, which provide free and fair quality of training. The alumni club had also fostered the students to expand their social networks and build meaningful relationships through constant meetings. The second family that we had interviewed had stated that during the Strive and Rise Programme, the mentees will apply for different sessions at the same time, it is hard for them to build up a constant relationship with one another as they cannot always be in the same sessions. The alumni club had successfully filled in the gap as it had a relatively lower mobility, the mentees can get to know each other better through constant meeting.

**Evaluation on the usefulness of the "Strive and Rise Programme":**
The interviewees are being asked to evaluate the overall usefulness of the Strive and Rise Programme, they are required to rate the programme from 1 to 10, where 1 represents most useless and 10 is most useful. The result are shown as below:

| Cases | Case 1 | Case 2 | Case 3 | Case 4 |
|---|---|---|---|---|
| Rating (1-10) | 7 | 7.5 | 8 | 7 |

The responses are mostly positive, the interviewees are thankful for having the Strive and Rise Programme that had broadened their horizons and offered them novel experiences. Moreover the $10,000 capital support had helped them to pave their way to live out their dreams while no additional cost or burden was put on their families. How-

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ever, there is still plenty of room for improvement, the interviewees had reflected that the curriculum design can be more in depth and communication between the programme and the mentees should be strengthened. Overall speaking, the interviewees are fairly satisfied with the programme provided which offers them more resources and opportunities for extracurricular learning experiences.

# DISCUSSION

The primary objective of this study is to examine the usefulness of the "Strive and Rise Programme" on increasing the amount of extracurricular learning opportunities received by the underprivileged students. This study had shed light on this inquiry by conducting interviews with 4 underprivileged families from different backgrounds. Through these interviews we had received different perspectives of thoughts on the programme.

**Summary of Key Findings:**
The "Strive and Rise Programme" had successfully filled in the gaps in the government's current policies addressing intergenerational poverty. Through enabling more underprivileged children to access diverse resources and achieve diversified development, it can thereby break the vicious cycle of intergenerational poverty.

The "Strive and Rise Programme" had offered the students from underprivileged families a variety of activities including workshops and visits. These diverse programmes provided a platform for the students in inferiority to gain more experiences and extracurricular learning opportunities regardless of their limited resources. Another highlight of the programme is the alumni club. The club had ensured the further development of the students by providing follow up activities and provided a platform for the students to build up their social network. This can ensure that other than the limited resources provided by schools and social organizations, there is still a variety of choices and chances waiting for them. This can ensure the students can enjoy equal learning opportunities in long-term development.

However, there is still plenty of room for improvement, namely the curriculum design, the communication and time management.

**Interpretation of the Findings:**
The findings have proved that the "Strive and Rise Programme", to a limited extent, is useful for the underprivileged students to seek for more extracurricular activities. As the programme did provide a variety of choices of activities that students can experience different fields beyond their usual academic environment. However, its effectiveness was constrained by several factors that limited its broader impact.

Firstly, while the programmes offered diverse options, such as visiting the M+ Museum and organic farming workshop, the short duration of certain activities (one-off workshops or short term courses) limited the long term benefits. These short exposures can only provide a brief insight and inspiration, but often fail to foster deep skill development. The underprivileged students have to learn more concrete skills in order to raise their competitiveness in the labour market in the future. These brief exposures are far from enough to bring them to higher salaries jobs when they start working.

Secondly, the arrangement of the programmes. The time arrangement of the programmes had also limited the participation of the mentees. On Saturday, many students had already arranged a certain number of classes on that day, so the students could not participate in the programmes actively due to conflicts in time management. Therefore, even though the programmes are inspirative and beneficial, the benefits and the coverage of the programmes would still be limited.

However, we cannot ignore the potential benefits that the "Strive and Rise Programme" has brought. The programmes had invited many professionals to be the lecturers and the students were assigned with professional mentors. These professionals can definitely provide brand new perspectives and advice for the students that can help them to identify aspirations and future goals. These pieces of advice and insights that cannot be searched on the internet can provide personalized advice that fit their individual needs in a relatively perfect way. Moreover, the $10,000 fund can be used for learning purposes, this financial assistance provided can be used to reduce financial barriers.

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## Recommendation:

To further improve the programme, it is suggested that the curriculum design should include more jobs experiencing workshops and job introduction talks to provide more job information for the poor students. As the "Strive and Rise Programme" aims to help those poor students, we believe that equipping them with job related skills is hoped to solve the property problem from its root. The major factor contributing to intergenerational poverty is the absence of talent and specialties, a scarce number of suitable choices in the job market demands the youths to stay alert and be prepared in advance for the sudden arrival of new opportunities. Through providing more job-related activities can enhance their job-related skills and knowledge that can raise their competitiveness in the society, especially in the labour market. Through getting a well-paid job, the underprivileged students can thus climb up the social ladders and break the intergenerational poverty's vicious cycle.It is also recommended to provide more continuous courses with more in depth knowledge to further polish their job skills.

Moreover, more feedback collecting channels should be provided to ensure continuous improvement of the programme. All opinions and feedback from the mentees and the mentors are valuable and important for the organizers to further improve the quality of the programmes provided. This can ensure the programme to run smoothly and efficiently under the supervision of the participants and the society to support the all-rounded development of the underprivileged students.

As the "Strive and Rise Programme" is involved in efforts given by different social organizations, it is suggested that the communication and cooperation between the coordinators should be strengthened. As stated by the interviewee, they can only attend programmes coordinated by the same social organization, which dwindle the choices for the programme. Therefore, it is suggested that the programmes offered should be open to all the mentees regardless of the organization in charge to provide a variety of options for them. To further expand the opportunities that can be offered, it is suggested that different organizations can work together to launch some large-scale campaigns with more participant quotas and more inspirative contents.

## CONCLUSION

To conclude, the "Strive and Rise Programme" is a step forward that the underprivileged students' opportunities are being valued by the government. However there is still plenty of room for improvement. The paper filled the gap of the effectiveness of the program, however, the amount of research is still insufficient.

Through interviewing families from different backgrounds, we had learned more about the Strive and Rise Programme, both the positive side and negative side. Although there is still plenty of room for improvement for the programmes, It is believed that even though these workshops and activities involve only brief encounters, they can help underprivileged students discover their dreams and find direction for their future. These simple interactions plant small seeds in their hearts that may one day grow into something magnificent.

In addition it is suggested that abundant amount of job market information should also be available for the undereducated candidates in addition to further equipment on themselves. More feedback collecting channels is also recommended to set up to receive advice, ensuring the continuous improvement of the programme. Lastly, more communication and cooperation between the activities coordinators (Social Organizations) is also needed to provide more advanced programmes that offer the mentees more inspirative and brand new experiences.

### Remarks:

Through the interviews, it is observed that other than the "Strive and Rise Programme", it is also noteworthy that many non-governmental social organizations such as The Boys' and Girls' Clubs Association of Hong Kong and the Hong Kong Federation of Youth Groups and church had been playing an important role in guiding the underprivileged students. These social organisations had also put great efforts into helping these poor students through organising activities like free art workshops and providing services like booking free musical instruments. Therefore, it is recommended that the government can seek advice from these organisations and can collaborate to further promote the all-rounded development of the underprivileged students. It is believed that more collaborations like the "Strive and Rise Pro-

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gramme" is definitely needed to address the problem of intergenerational poverty more efficiently.

## Limitations:

However, this study is not without limitations. As the Strive and Rise Programme's targeted mentees are those students who are underprivileged and live in subdivided units, the programme also did not disclose any information of the mentees, it is difficult for us to find interviewees who had joined the programme. Although we had tried our best, we had only found four participants for case studying which was far less than enough for representing the whole programme. Also, the interviewees answer may not be accurate as it only depends on their memories, they might remember something wrongly. Therefore, the findings might be misled and not accurate enough.

## 📖 REFERENCES LIST

1    The Hong Kong Federation of Youths Groups. (2005, January). Youth Study Series 33: A Study on the Livelihood of Young People from Low-income Households in Hong Kong. https://yrc.hkfyg.org.hk/wp-content/uploads/sites/56/2021/10/YS33_Eng.pdf

2    The Hong Kong Federation of Youths Groups. (2007, June). Youth Study Series 37: The Challenges and Difficulties Faced by Young People in Hong Kong with Low Educational Attainment, Low Levels of Skill and Low Income. https://yrc.hkfyg.org.hk/wp-content/uploads/sites/56/2021/10/YS37_Eng.pdf

3    兒童權利關注會. (2011, July 24). 貧窮兒童研究系列十三：貧窮兒童生活質素研究. https://soco.org.hk/wp-content/uploads/2014/10/children_research_2011_7_24.pdf

4    香港貧窮狀況報告 2024, 樂施會 https://www.oxfam.org.hk/tc/f/news_and_publication/115439/POVERTy%20Rerport%202024_Eng.pdf

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**VOLUME 1 (2025)**

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