

NAVIGATING THE JOURNEY

Charting the Path of Teenage Entrepreneurship Education in Hong Kong and Greater Bay Area (GBA) 探索香港與大灣區青年開拓與創新教育之路

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Section 1

Fostering Entrepreneurial Spirit in Secondary Schools

The Vital Need for Entrepreneurship Education

What is social change? New Job?



國家標識保育者
National Identity Conservationist

The Vital Need for Entrepreneurship Education

What is social change? New Job?



公共科技倫理學者
Public Technology Ethicist

The Vital Need for Entrepreneurship Education

What is social change? New Job?



區塊鏈理財服務工程師
Blockchain Banking Engineer

The Vital Need for Entrepreneurship Education

What is social change? New Job?



Superstructure Printer, 2030

As 3D printers allow us to build at a colossal scale, this person manages their operation during construction.

Inspired by H.E. Khalid A. Al-Falih, David M. Rubenstein, Sir Martin Sorrell, Amal Dokhan, Sona Mirzoyan, Leila Hoteit & Richard Quest

建築打印技師
Superstructure Printer

The Vital Need for Entrepreneurship Education

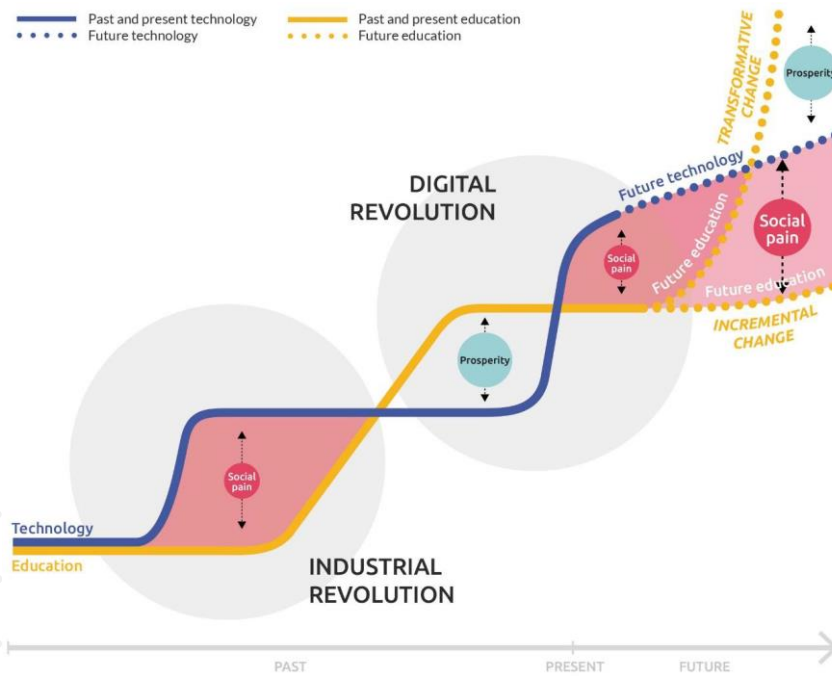
What is social change? New Job?



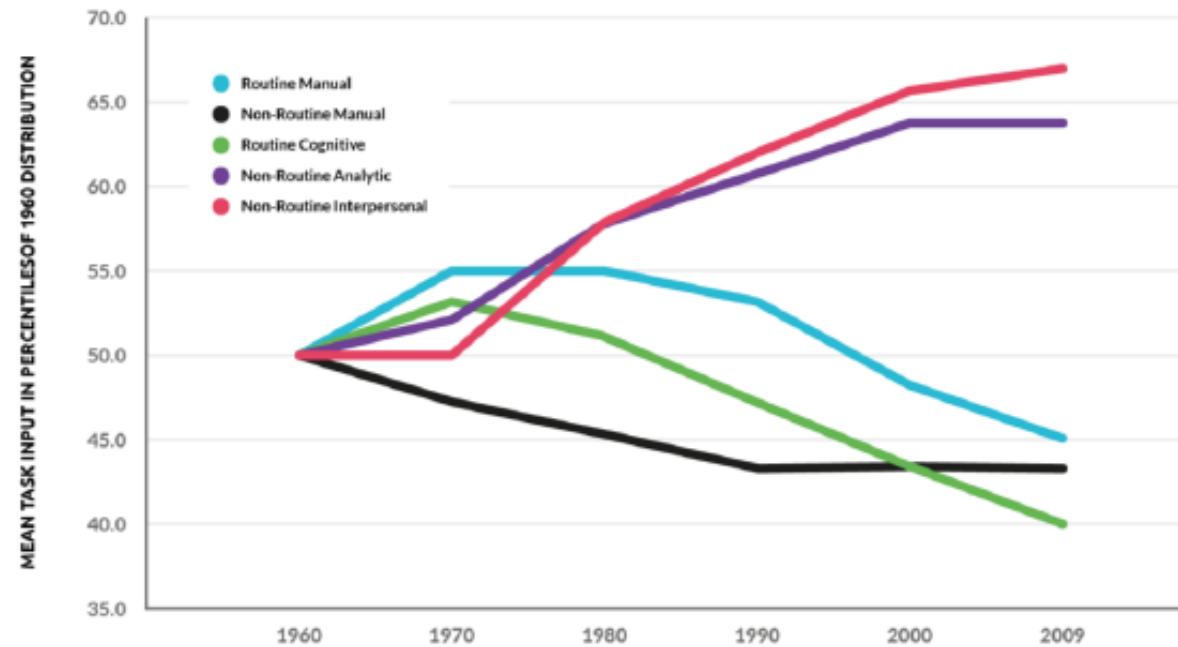
堆填區回收員
Landfill Recycler

The Vital Need for Entrepreneurship Education

21st Century skills and entrepreneurial spirit



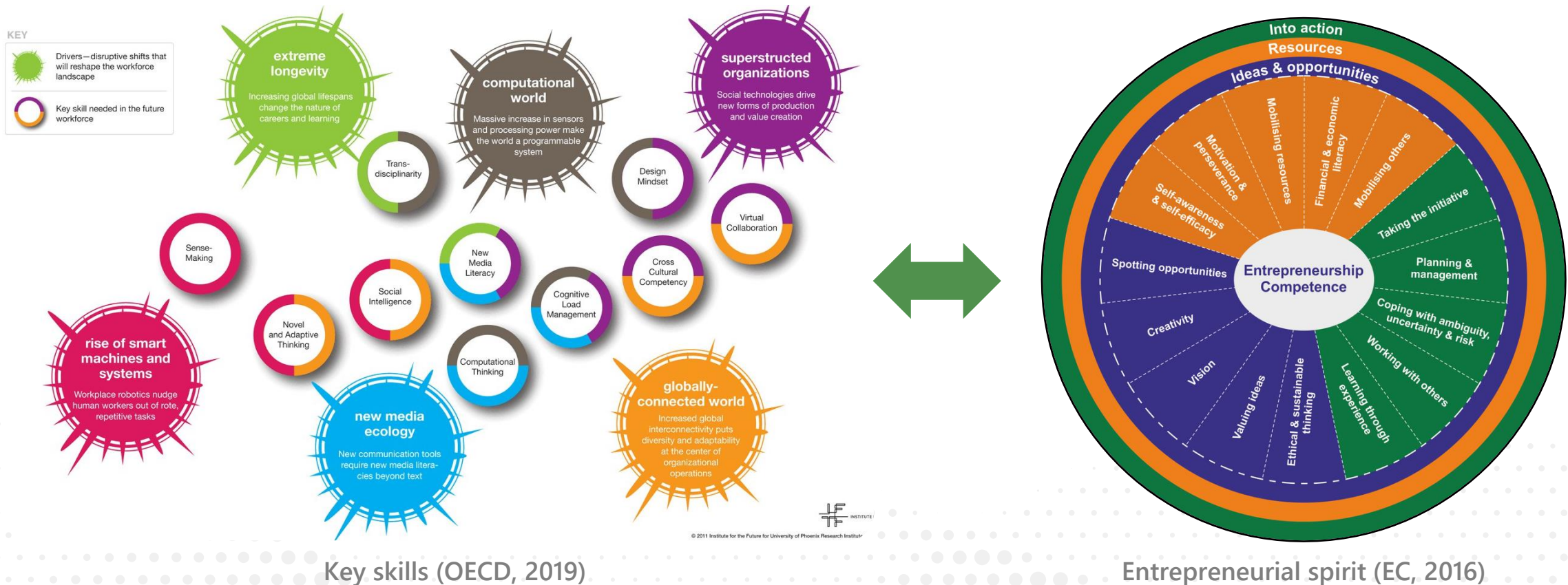
Change since 1960 in prevalence of types of tasks required for work



Race between Technology and Education (OECD, 2019)

The Vital Need for Entrepreneurship Education

21st Century skills and entrepreneurial spirit



Key skills (OECD, 2019)

Entrepreneurial spirit (EC, 2016)

The Vital Need for Entrepreneurship Education

21st Century skills and entrepreneurial spirit

Entrepreneurial education and *entrepreneurial city*

- Nurturing an entrepreneurial citizen:
making their dream come true with entrepreneurial spirit
- Reinforce the competitiveness of country or city: promotes market competition, enhancing production efficiency and creating a new business/market



Identify social needs



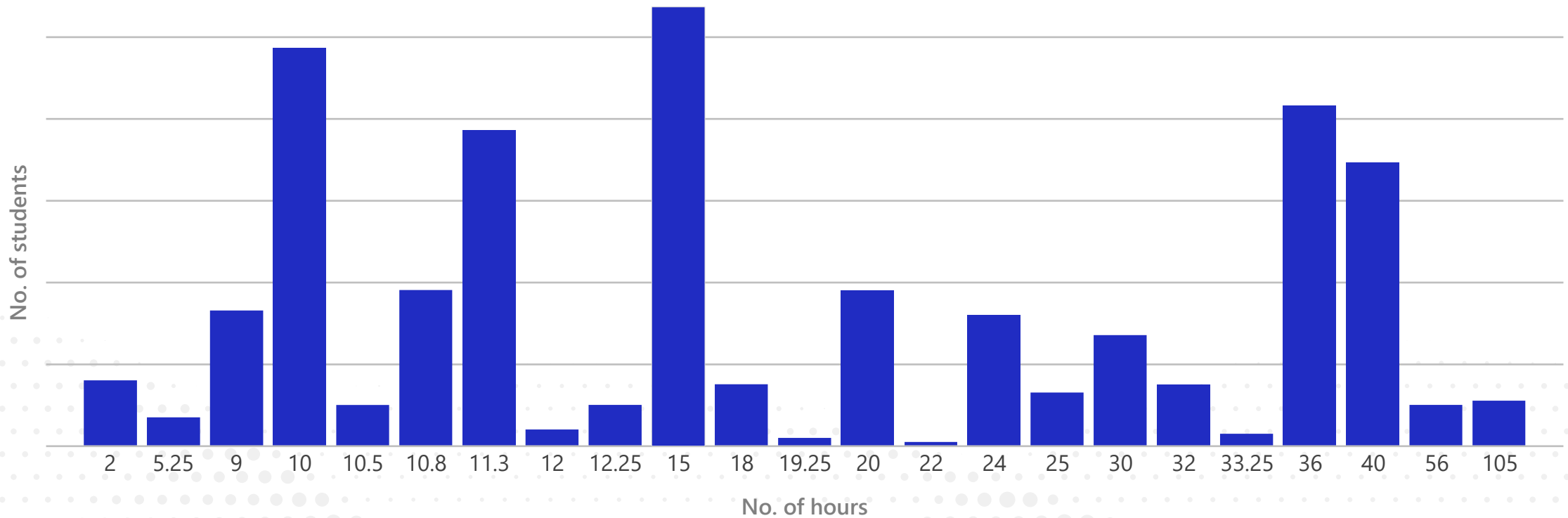
Pursue dream with entrepreneurial spirit



An entrepreneurial city

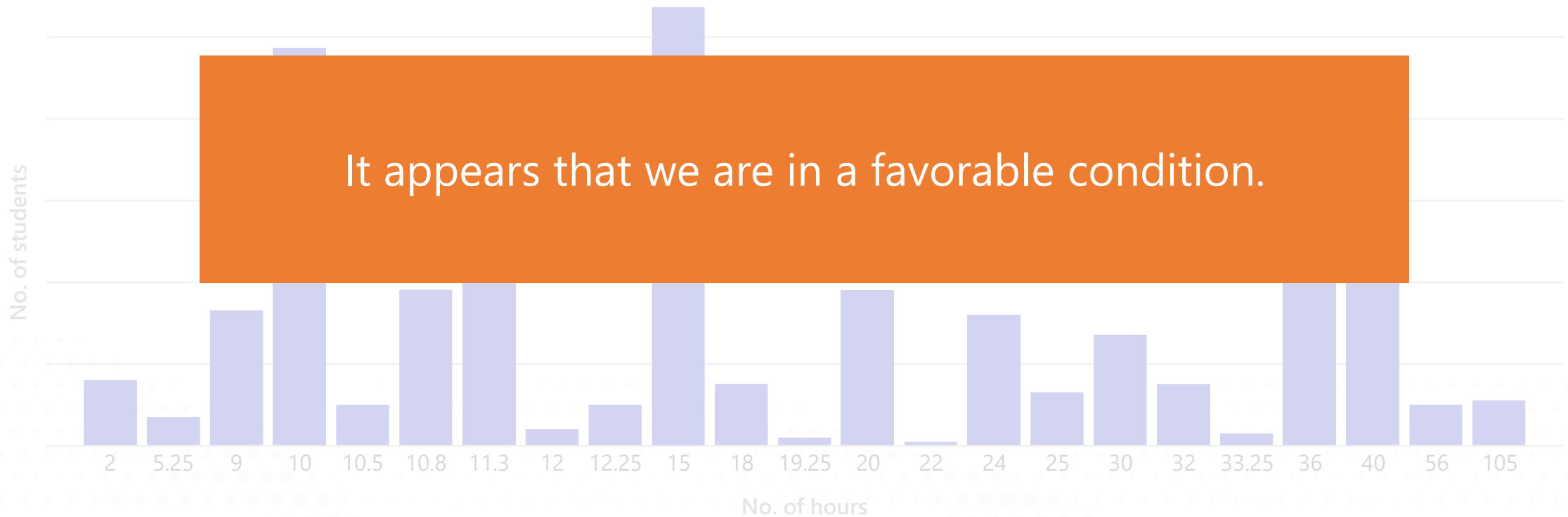
Teenage Entrepreneurial Spirit

Duration of Entrepreneurial Education Received by the Sampled Students
(N = 718)



Teenage Entrepreneurial Spirit

Duration of Entrepreneurial Education Received by the Sampled Students
(N = 718)



Inspiring Innovation | How?

Rule 1 Discover your kids' passion

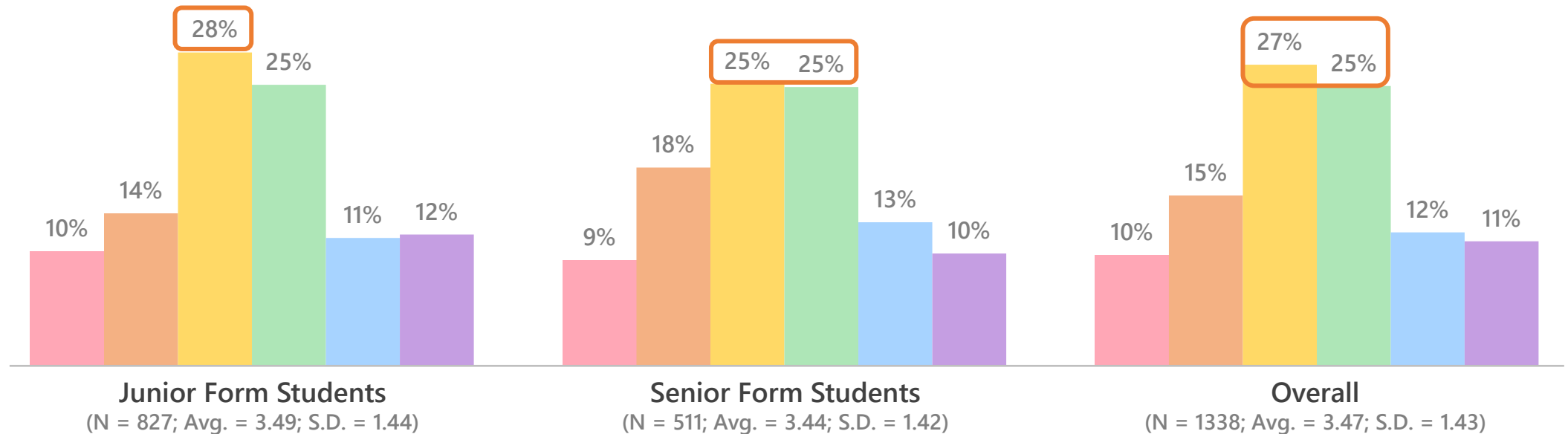


Passion → Idea

...味道是最難忘卻的回憶，偶爾拂來，往事就不由自主地在腦海中播放。當吃糖的往事片段連結起後來新加坡偶爾的相遇，即變成了Jen創業賣手工糖的動力，把回憶重新成為生活的一部分...

Inspiring Innovation | How?

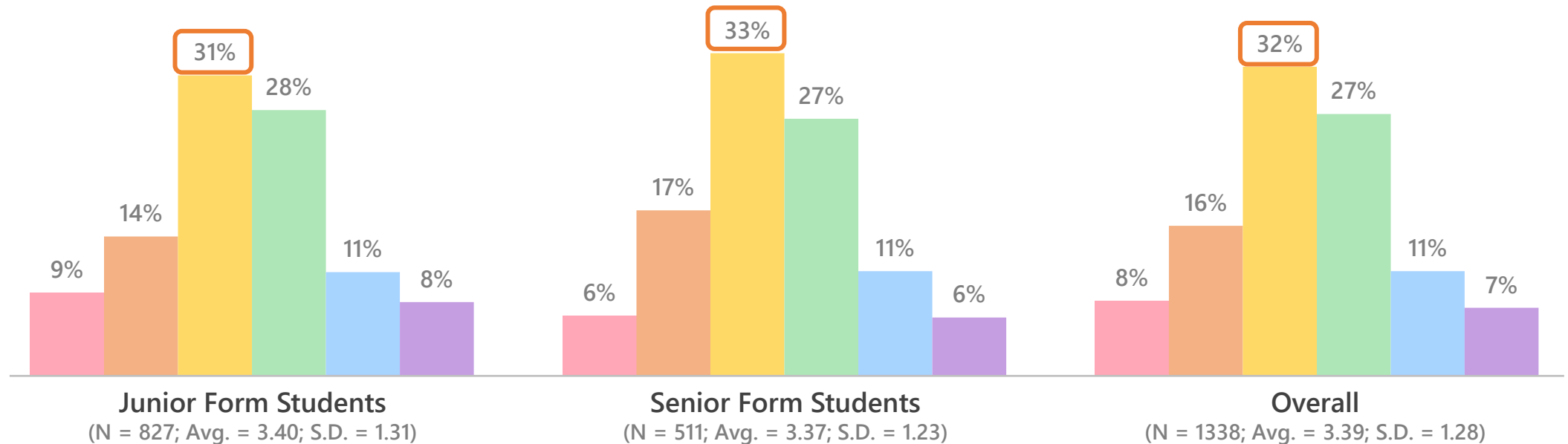
Rule 1 Discover your kids' passion



In the 'Hong Kong Entrepreneurial Competency Framework,' 'Passion' refers to the enthusiasm and perseverance in achieving goals and aspirations, as well as the attitude of being passionate about one's career. In the questionnaire, we asked students to rate the following three statements on a scale of 1-6, where 1 represents 'strongly disagree' and 6 represents 'strongly agree.' The statements include: 'I am ready to become an entrepreneur,' 'I will make every effort to start and run my own company in the future,' and 'I am very interested in starting a company in the future.' The interviewed students' acceptance of entrepreneurial education was found to be significantly related to these statements ($p < 0.05$).

Inspiring Innovation | How?

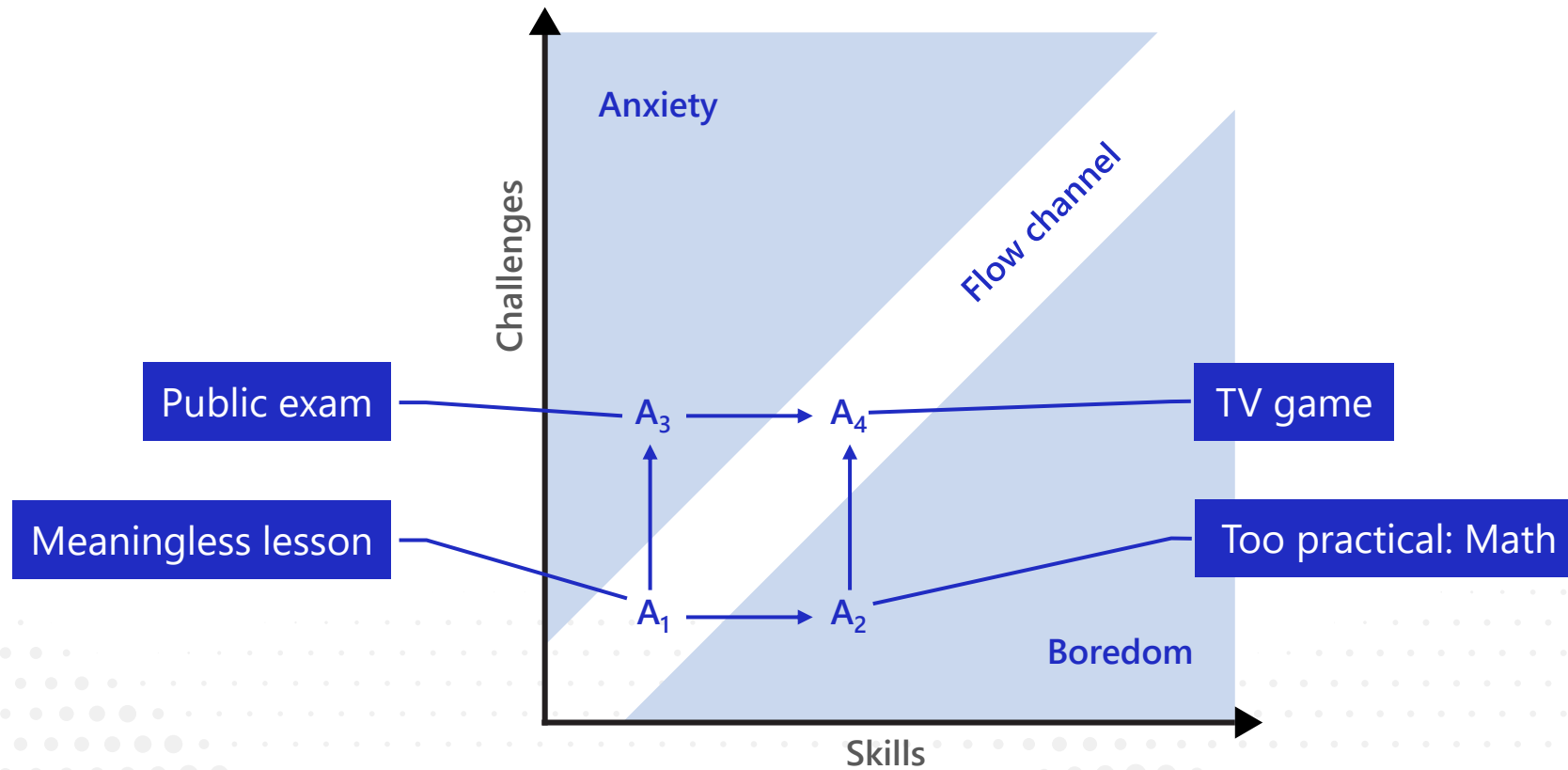
Rule 2 Challenge and skills (encourage them to solve their problem)



In the 'Hong Kong Entrepreneurial Competency Framework,' 'Confidence' refers to the attitude of believing in one's own abilities to bring about change and having the confidence to overcome challenging tasks. In the questionnaire, we asked students to rate the following four statements on a scale of 1-6, where 1 represents 'strongly disagree' and 6 represents 'strongly agree.' The statements include: 'Persisting in implementing a new idea (such as trying entrepreneurship) is easy for me,' 'If I am willing to implement a new idea (such as trying entrepreneurship), I am likely to succeed,' 'Implementing a new idea (such as trying entrepreneurship) is very easy for me,' and 'I know the practical requirements for implementing a new idea (such as trying entrepreneurship).' The interviewed students' acceptance of entrepreneurial education was found to be significantly correlated with these statements ($p < 0.01$).

Inspiring Innovation | How?

Rule 2 Challenge and skills





Csikszentmihalyi, M. (1990). *Flow: the psychology of optimal experience*. New York, London: Harper & Row.

Discovering Opportunities | How?

Rule Learn to understand the others' needs (empathy)

- Site visits (bring them to the field)
- Observing target customer
- Conducting survey or interview (bravery)



Your idea



Visit shoes store



Observe buyer



Valid your idea

Recognising New Opportunities | Strategies

Seven Strategies for Idea Generation

Imagination-based strategies

Actions that involve suspending disbelief and dropping constraints in order to create unrealistic states or fantasies.



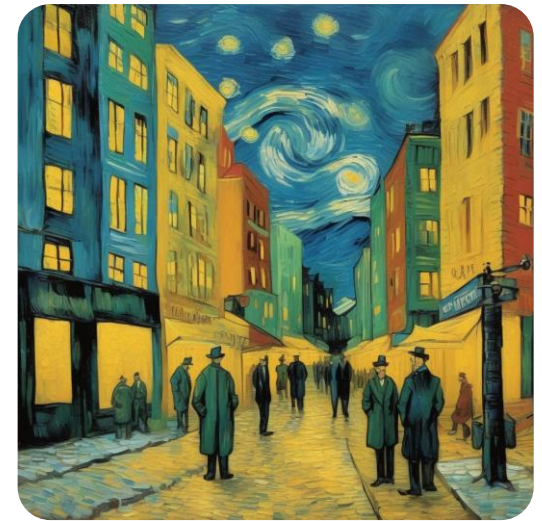
Mars plan



New landing skills

Recognising New Opportunities | Strategies

What opportunities do you foresee in the Greater Bay Area?



Generated by AI

Section 2

Teenage Entrepreneurial Spirit: Frameworks and Resources

Recognising New Opportunities | Strategies

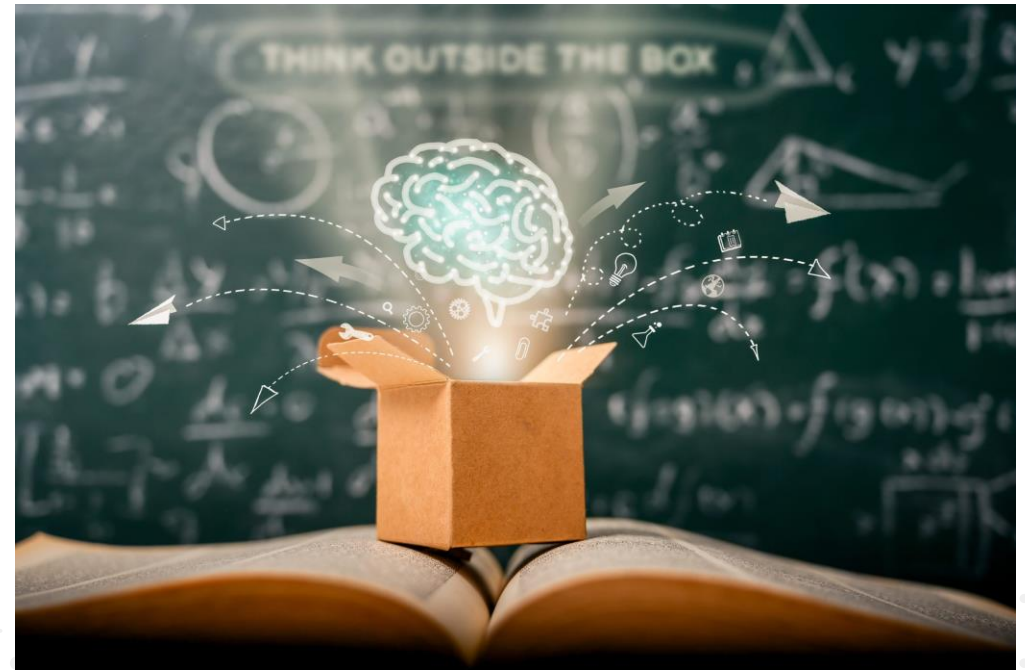
Seven Strategies for Idea Generation

Development strategies

Actions that involve enhancing and modifying existing ideas in order to create better alternatives and new possibilities.

Task – Innovation stimulation

1. Share one idea with three friends
2. Invite them to modify your idea
3. Three rounds, then get it back



Teenage Entrepreneurial Spirit

Frameworks and Resources



The entrepreneurial spirit in GBA – You shall love your neighbor as yourself.

The Best Practice

Define Entrepreneurship

Value

Opportunity Recognition
Vision/Visionary
Cohesiveness
Social Responsibility

Attitude

Proactiveness
Enthusiasm
Self-efficacy
Humility

Knowledge

Innovativeness
Economic & financial literacy
Planning & management
Risk-taking

Skills

Leadership
Mobilising resources
Reflective learning
Caring

The Best Practice | Define Entrepreneurship

Opportunity Recognition

- Believe that opportunities can be discovered in daily life
- Believe that recognizing opportunities can respond to and address uncertainties/difficulties

Vision/Visionary

- Believe in one's own imagination of the future
- Believe that vision leads to action

Cohesiveness

- Believe in the team sharing collective values
- Believe in the importance of an inclusive team that maximizes the exchange of ideas and learning

Social Responsibility

- Believe that societal engagement is necessary
- Believe in making informed decisions that contribute to the community and environment

Proactiveness

- Passionate about giving help and solving problems
- Passionate about introducing value-creating initiatives

Enthusiasm

- Passionate about persistently actualizing goals and ambitions
- Passionate about one's own career

Self-efficacy

- Trust self-capacity to make changes
- Confident in overcoming challenging tasks

Humility

- Appreciate contributions from others
- Show genuine care for others

Innovativeness

- Ability to adopt and adapt innovative ideas
- Ability to experiment with innovative ideas

Economic & financial literacy

- Ability to estimate simple budgets and prepare financial reports
- Ability to make financial decisions and evaluate over time

Planning & management

- Ability to prioritize tasks according to the direction of initiatives
- Ability to monitor and evaluate actions

Risk-taking

- Ability to identify potential risks
- Ability to make decisions to avoid unnecessary risks

The Best Practice | Define Entrepreneurship

Value

Attitude

Knowledge

Skills

Leadership

- Master the skills of fostering team capacity
- Master the skills of inspiring and motivating people

Mobilising resources

- Master the skills of seeking and allocating resources
- Master the skills of utilizing limited resources

Reflective learning

- Master the skills of reflecting and evaluating achievements and failures
- Master the skills of making improvements through reflection and evaluation

Caring

- Master the skills of embracing socio-cultural and economic diversity
- Master the skills of identifying others' needs and social problems

Teenage Entrepreneurial Spirit

Frameworks and Resources

Comparison between sample school students and students from other schools

	With Entrepreneurial Education	Without Entrepreneurial Education
Familiar with opportunities	3.87	3.74
Visionary	4.11	3.99
Cohesion	4.21	4.07
Social responsibility	4.14	4.01
Proactive	4.03	3.92
Passion	3.52	3.41
Confidence	3.47	3.30
Humility	4.44	4.27
Innovation	4.05	3.92
Planning and management	3.93	3.77
Risk tolerance	3.86	3.80
Resource allocation	3.75	3.52
Caring	4.37	4.16
Reflective learning	4.29	4.24
Leadership	3.92	3.76

Identify the Hurdles

01 **Misunderstand the meaning of entrepreneurship**

- Start-up or individual attributes?
-

02 **Misunderstand the meaning of entrepreneurship education**

- Knowledge instead of values, attitudes, and skills
-

03 **Examination-oriented**

- Teaching budgeting, marketing, and team building
 - Lack of experiential learning
-

04 **Teacher overloaded**

- Limited teaching hour
- Limited manpower

Landscape of Entrepreneurship Education (Global)

Country	General Attitude	Embedded in curriculum?
USA	High quality entrepreneurship training can help ensure a better quality of life for the individual entrepreneur and their community as a whole. (Miller, 2008)	Embedded in compulsory and optional primary and secondary subjects; and in ECA
United Kingdom	Enterprise ... is about a can-do and positive attitude and equipping people with the confidence to develop a career and vocational interests. (Young, 2014)	Embedded in compulsory primary and secondary subjects in Wales; and in ECA
Lithuania	The aim of entrepreneurship and economy education in secondary schools is to ... raise skills of personal financial sense, entrepreneurship competence, purposefully learn and plan professional and personal life, create academic knowledge based on perception of changing economic conditions. (Ministry of Education and Science, 2011)	Embedded in compulsory primary and secondary subjects; and in ECA
Germany	Entrepreneurial Spirit in Schools' aims to foster creativity, responsibility and social skills. Learning by doing. (Federal Ministry for Economic Affairs and Climate Action, 2014)	Embedded in optional primary and secondary subjects; and in ECA
Australia	Students will be encouraged to develop enterprising behaviors, such as showing initiative and adaptability, and to develop entrepreneurial approaches to imagine possibilities, consider alternatives... (Australian Curriculum, Assessment and Reporting Authority, 2012)	Secondary schools initiated in-curriculum programs and in ECA
Mainland China	培養學生的創新素質和創業能力，是高校人才培養面臨的重要課題，包括首創精神、冒險精神、創業能力、獨立工作能力以及技術、社交和管理技能的培養。(沈陽師範大學，2019)	Pilot in 200 secondary school as state exemplars; and in ECA
Singapore	Innovation and enterprise is about developing intellectual curiosity amongst all our children, a willingness to think originally and a willingness to do something differently, even if there is risk of failure. (Tharman, 2004)	Secondary schools initiated in-curriculum programs and in ECA

Competency Framework



Competency Framework

香港開拓與創新能力架構



價值觀

指一個人的信念，並會影響他／她所作的決定和行為。

能力	簡述
洞悉機遇	<ul style="list-style-type: none"> 相信可於日常生活中發現機遇 相信機遇可應對未知環境/困難
有願景	<ul style="list-style-type: none"> 相信自己所想像的將來 相信願景可引領行動
凝聚力	<ul style="list-style-type: none"> 相信團隊擁有共同價值觀 相信擁有多樣性背景的團隊能提高思想交流和學習
社會責任	<ul style="list-style-type: none"> 相信社會參與是有必要的 相信明智的決策會貢獻社會及環境



態度

指一個人的感受和某些行為的傾向。

能力	簡述
積極主動	<ul style="list-style-type: none"> 熱衷於伸出援手及解決問題 熱衷於主動作出創造價值
熱忱	<ul style="list-style-type: none"> 熱衷並堅持不懈地將目標和抱負實現 熱衷於其事業
自信	<ul style="list-style-type: none"> 相信自身能力可作出改變 有信心戰勝具挑戰性的工作
謙遜	<ul style="list-style-type: none"> 欣賞別人的付出 向他人展示真誠的關懷



知識

指對概念的掌握及實踐。

能力	簡述
創新	<ul style="list-style-type: none"> 能夠接納和適應新思維 能夠試驗創新思維
經濟及財務知識	<ul style="list-style-type: none"> 能夠作出簡單預算及編製財務報表 能夠作出財務決策及定時檢討
規劃及管理	<ul style="list-style-type: none"> 能夠識別起點方向並為工作制訂優先次序 能夠監察及檢討行動
承擔風險	<ul style="list-style-type: none"> 能夠識別風險 能夠避免不必要風險



技能

指對技巧的掌握以能更有效地作出表現。

能力	簡述
領導力	<ul style="list-style-type: none"> 能夠促進團隊能力 能夠啟發和激勵別人
資源調配	<ul style="list-style-type: none"> 能夠尋找及分配所需資源 能夠善用有限的資源
反思學習	<ul style="list-style-type: none"> 能夠反思及檢討成就與失敗 能夠透過反思和檢討作出改進
關愛	<ul style="list-style-type: none"> 能夠接納社會文化及經濟多樣性 能夠識別他人的需要和社會問題

香港教育大學研究團隊

首席研究員： 趙永佳教授
研究助理： 譚芷嫻小姐
何振聲博士 廖昭杰先生

Curriculum Example



Curriculum Example

5. E & I 課程的示

5.3. 課程

研究團隊建議開創課程可包括核心課程及自選課程作為課程元素。

核心課題

團隊建立與領導才能 – 開創項目往往需要由團隊合作完成，課題旨在培養學生團隊合作精神、凝聚力、領導力，為日後課程的團隊開創項目作準備。

思考模型 – 為培養學生的同理心，課題旨在讓學生體驗以人為本的創新思考模型，從而開發出獨特的產品或服務。

商業基礎 – 為使開創項目能夠順利推出市場並能持續發展，課題旨在裝備學生基礎會計及市場銷售知識，亦作為核心課程 Pitching 前置知識。

簡報 Pitching – 為使開創項目獲得支持及投資，有效地將項目意念推銷是必須的。課題旨在提升學生的演說技巧，並以有效的方式將意念呈現。

自選課題

創客 Maker – 為讓學生的創新意念能夠以實物呈現，課題旨在讓學生透過各類型工具及方式動手將意念實物化。

STEAM – 為使學生能夠透過科學、科技等範疇設計、驗證、呈現意念，課題旨在讓學生從科學、科技層面將意念呈現。

創業實踐 – 為讓學生能夠透過親身實踐創業、營銷體驗培養開創能力，課題旨在貫穿創業、營銷所需知識及技巧，帶領學生進行創業實踐。

開拓與創新教育建議課程元素



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5. E & I 課程的示

課程	課題	開創架構涵蓋項目	註釋 / 建議	可滲透科目
核心	團隊建立與領導才能	V: 凝聚力 A: 積極主動、自信、謙遜 S: 領導力、反思學習、關愛	<ul style="list-style-type: none"> 透過低結構歷奇活動 (如: 棉花糖挑戰、角色扮演), 培養學生以下能力: <ul style="list-style-type: none"> 團隊協作 溝通 領導力 同理心 	生活與社會 / 價值教育
	思考模型	V: 洞悉機遇、有願景 A: 積極主動 S: 反思學習、關愛 K: 創新	透過學習設計思維或精實畫布 (Lean Canvas), 讓學生學習如何運用創新思維, 開發出獨特的產品或服務	基本商業 / 科技與生活
	商業基礎	V: 洞悉機遇、社會責任 S: 資源調配、反思學習 K: 經濟及財務知識、規劃及管理	<ul style="list-style-type: none"> 會計入門 <ul style="list-style-type: none"> 預算和記錄, 例: 日常開支、原型製作成本等 市場學入門 <ul style="list-style-type: none"> 營銷概念, 例 4P、4C 商業道德與社會責任 	設計與科技 / 基本商業 / 科技與生活
	簡報 Pitching	A: 自信、謙遜 S: 領導力、反思學習 K: 規劃及管理	<ul style="list-style-type: none"> 表達技巧 <ul style="list-style-type: none"> 如何突出創新意念的重點 如何作出有說服力的演說 呈現方法 <ul style="list-style-type: none"> 學習製作呈現意念的工具, 如 PPT、影片等 	語文 / 電腦 / 科技與生活

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5. E & I 課程的示例

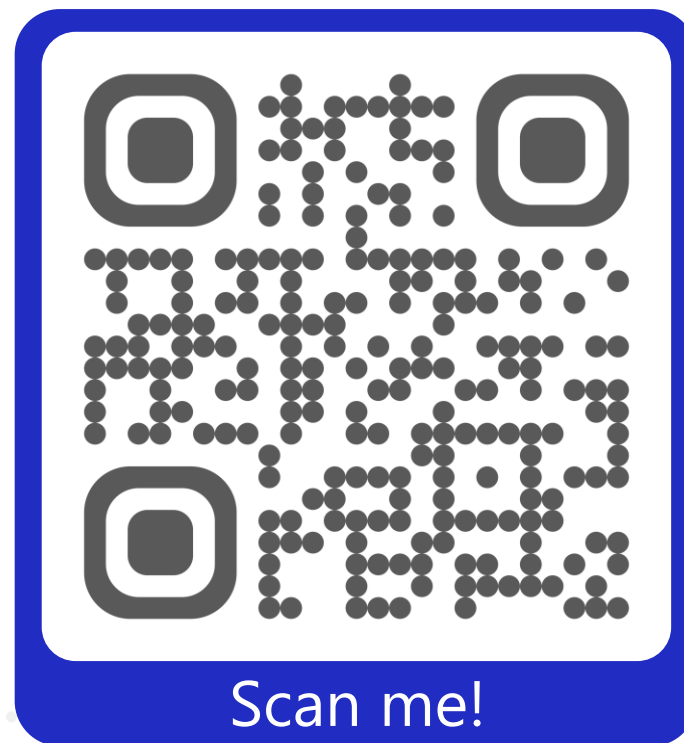
課程	課題	開創架構涵蓋項目	註釋 / 建議	可滲透科目
自選	創客 Maker	V: 洞悉機遇、有願景 A: 積極主動、熱忱 S: 反思學習 K: 創新	<ul style="list-style-type: none"> 工具的基礎使用 配合核心課題思考模型的設計思維, 將解決方案逐步呈現並不斷改進 	設計與科技 / 科技與生活
	STEAM	V: 有願景 A: 積極主動、熱忱 S: 反思學習 K: 創新	<ul style="list-style-type: none"> 學習 STEAM 知識和技能 配合核心課題思考模型, 將意念與 STEAM 知識和技能結合及實現 	STEAM / 設計與科技 / 電腦 / 科技與生活
	創業實踐	V: 洞悉機遇、有願景、凝聚力、社會責任 A: 積極主動、熱忱、自信、謙遜 S: 領導力、資源調配、反思學習、關愛 K: 創新、經濟及財務知識、規劃及管理、承擔風險	<ul style="list-style-type: none"> 以創業銷售作為主題進行教學, 如市集、年宵、網店銷售等 配合核心課題商業基礎, 策劃商業銷售計劃, 製作財務預算和報表 規劃與控制 資源組織與管理 風險管理 	基本商業 / 科技與生活

團隊參考過不同地區和本地學校的課程設計，總結並建議以上述核心課程和自選課程作為開創課程的設計框架。核心課程四個課題貫穿整個開拓與創新過程，教授學生於開創過程中所需的通用技能和知識，並從而培養他們的價值觀和態度。自選課程三個課題分別為技能的增潤及實踐，配合高彈性的組合方式，學校可按校情，設計校本開創課程，並根據學生的需求及能力調整課題內容和教學時數。學校除可將開創課程獨立成科外，亦可配合科技教育、STEM 等學科進行多元學習。

團隊建議課程應以學生作為主導，並配合體驗式教學，提高學生的學習動機和學習成效。學校可以引入專題研習、問題導向的學習、小組合作學習等教學方法，提供更加多元化的學習體驗，同時也有助於培養學生的自主學習能力和創新能力。

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Curriculum Example



Curriculum Example

附件一：課程配對

範疇	能力	個人、社會及人文教育		
		生活與社會	倫理與宗教	經濟
知識	創新			
	經濟及財務知識	單元 1.3 理財教育		必修部份 B 廠商與生產 - 生產要素 (ii) 人造資源 ○ 資本；累積和折舊 - 短期和長期生產及生產成本 (iii) 生產成本 ○ 固定成本和可變成本 ○ 總生產成本、邊際成本及平均生產成本 - 廠商目標 ① 利潤極大化的目標：在已知價格和邊際成本表的情況下，將利潤極大化 ○ 利潤作為總收入及總成本的差額 C 市場與價格 - 價格的功能 ① 配給功能：現存供應分配予願意付最高價值的用家 ② 分配功能： ○ 從邊際利益得出需求，從邊際成本得出供應，兩者相互作用決定價格及資源配置 ○ 相對價格的轉變與資源調配
	規劃及管理	單元 1.3 理財教育		
	承擔風險	單元 1.3 理財教育		必修部份 B 廠商與生產 - 生產要素 ① 人力資源 企業家職能：風險承擔和決策
技能	領導			
	資源調配	單元 1.3 理財教育		必修部份 B 廠商與生產 - 分工
	反思學習	單元 1.2 人際關係與社會共融 單元 2.1 跨越成長挑戰		
	關愛	單元 1.2 人際關係與社會共融 單元 1.3 理財教育 單元 2.3 香港的公共財政	必修部份：倫理學 單元一：規範倫理學 - 道德的本質 - 多元主義	

附件一：課程配對

科技教育			
科技教育 (初中)	設計與應用科技	企業、會計及財務概論	健康管理與社會關懷
	必修部份 學習範疇一 設計與創新 設計的實踐 - 創意設計 設計考量 - 設計評鑑		
中二 延伸部份 操縱和製造：E3 項目管理 - 計劃及組織工作的步驟或程序 中三 延伸部份 操縱和製造：E3 項目管理 - 項目裡的團體協作：決策、計劃、組織、控制及評鑑過程 操縱和製造：E4 資源管理 - 編製個人及公司的財務預算和財務報告表	必修部份 學習範疇一 設計與創新 設計的實踐 - 項目管理及隊工	商業管理學習範疇必修部分 1(c) 基礎會計 - 會計處理 - 財務報表的用途 - 會計學習範疇選修部份 2(a) 財務會計 - 不同企業擁有權類型的財務報告編製 - 財務報表分析 2(b) 成本會計 - 成本會計在決策中的功能 商業管理學習範疇選修部份 3(b) 財務管理 - 財務分析 - 預算編製	
中二 延伸部份 操縱和製造：E3 項目管理 - 計劃及組織工作的步驟或程序 中三 核心部分 操縱和管理：K7 廠商環境、運作和組織 - 商業運作及項目的決策、計劃、組織、控制、評鑑、品質保證	必修部份 學習範疇一 設計與創新 設計的實踐 - 項目管理及隊工	會計學習範疇、商業管理學習範疇必修部份 1(b) 基礎管理 - 管理功能 商業管理學習範疇選修部份 3(a) 管理專論 - 管理功能	必修部分 課程 五 身體力行 - 健康推廣、保健與社會關懷 SD 健康及社會關懷服務所需的領導才能 - 3. 組織技巧
		商業管理學習範疇選修部份 3(b) 財務管理 - 風險管理	
中三 延伸部份 操縱和製造：E3 項目管理 - 項目裡的團體協作：決策、計劃、組織、控制及評鑑過程 中二 延伸部份 操縱和製造：E3 項目管理 - 計劃及組織工作的步驟或程序 中三 延伸部份 操縱和管理：E4 資源管理 - 編製資源流程 - 人力資源		商業管理學習範疇選修部份 3(b) 財務管理 - 融資方式	

Evaluation Survey

thank you

