

加強學校無線網絡基礎設施 WIFI 900A 學校簡介會

教育局資訊科技教育組
2017年11月23日

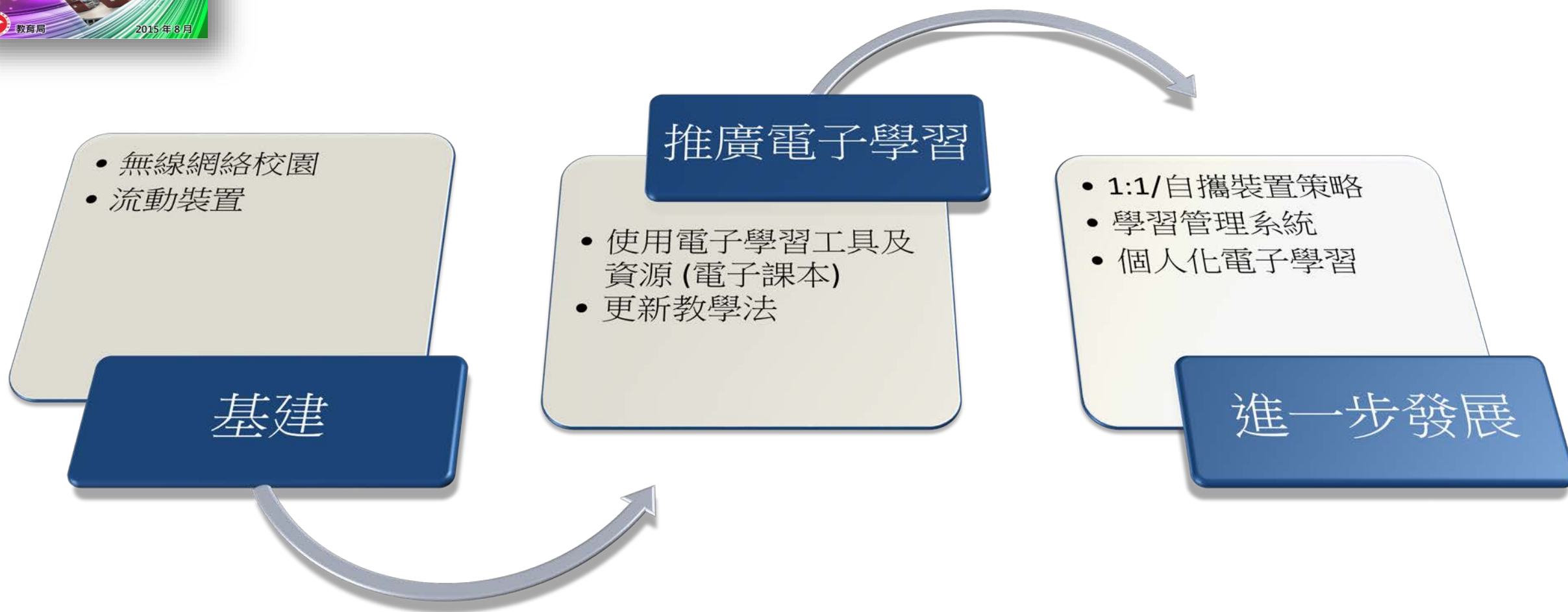
2017年施政報告

- 自2015/16 學年推出「第四個資訊科技教育策略」，教育局已為大部分公營學校已按計劃完成建立無線網絡校園工程。
- 2017/18學年，為加強所有公營學校的資訊科技人手支援，教育局已提供額外經常現金津貼「資訊科技人員支援津貼」。
- (新措施) 計劃邀請「關愛基金」考慮資助清貧中小學生購買平板電腦，實踐電子學習。

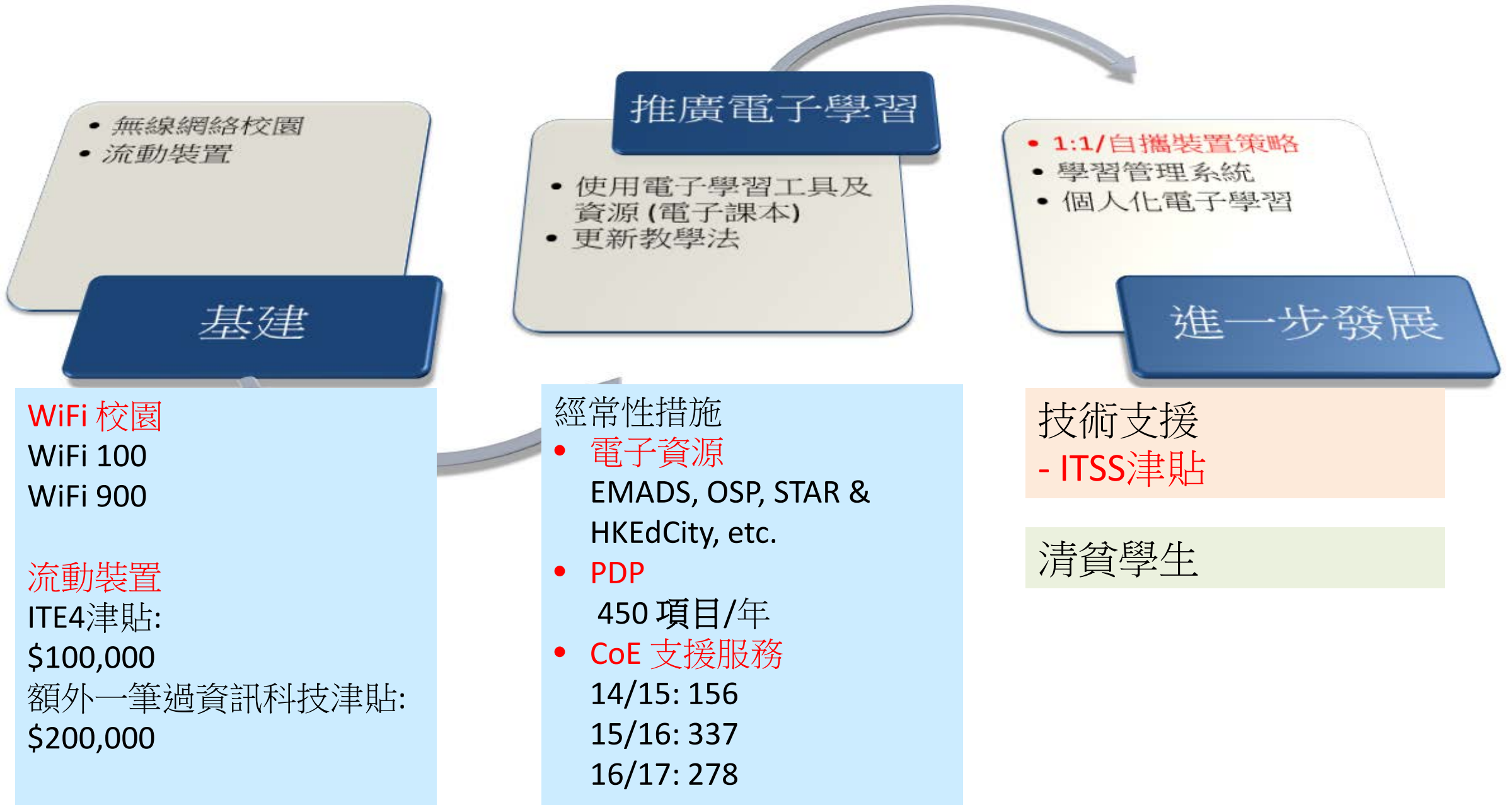




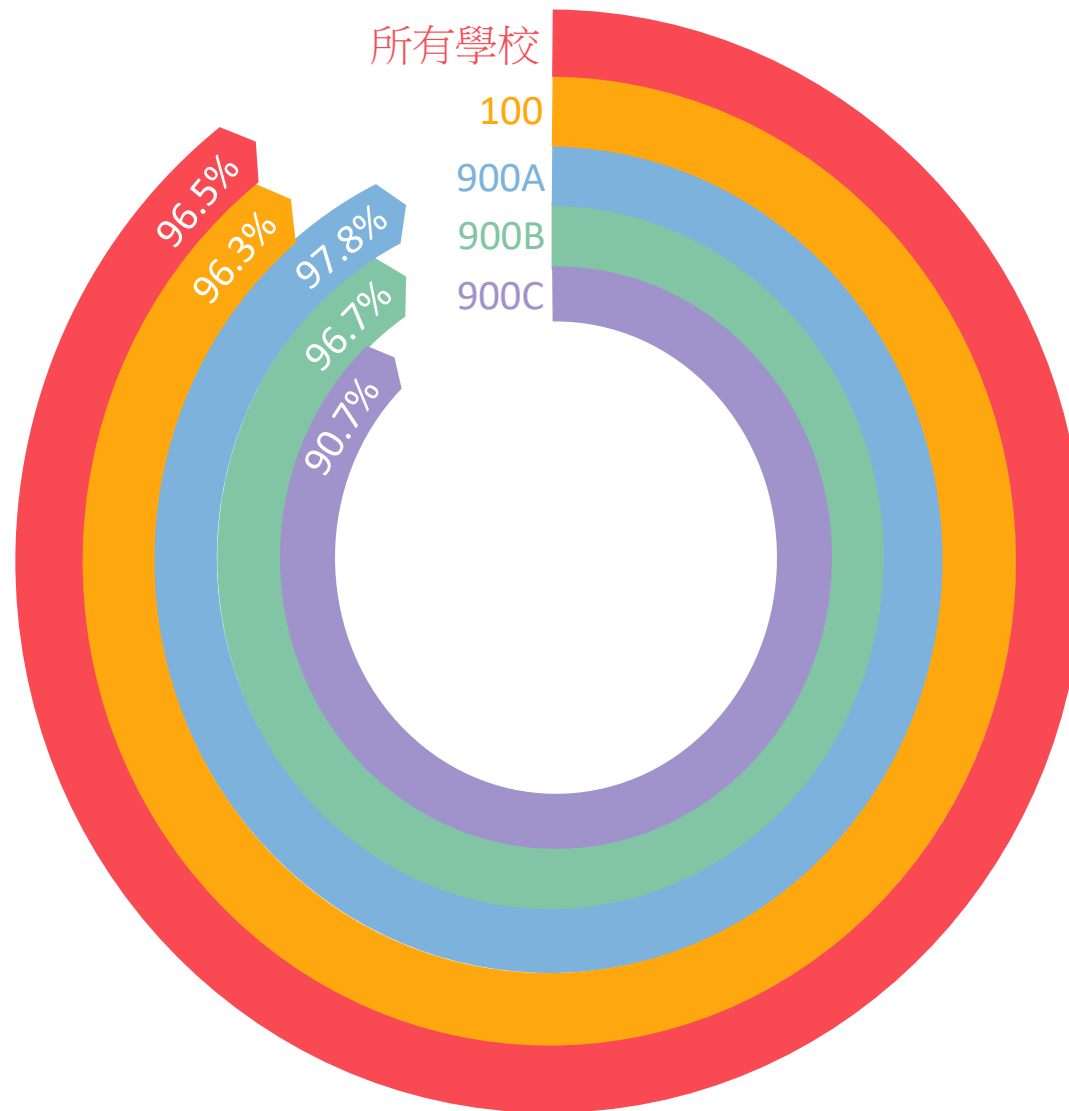
「第四個資訊科技教育策略」 下學校使用流動裝置電子學習典型路線圖



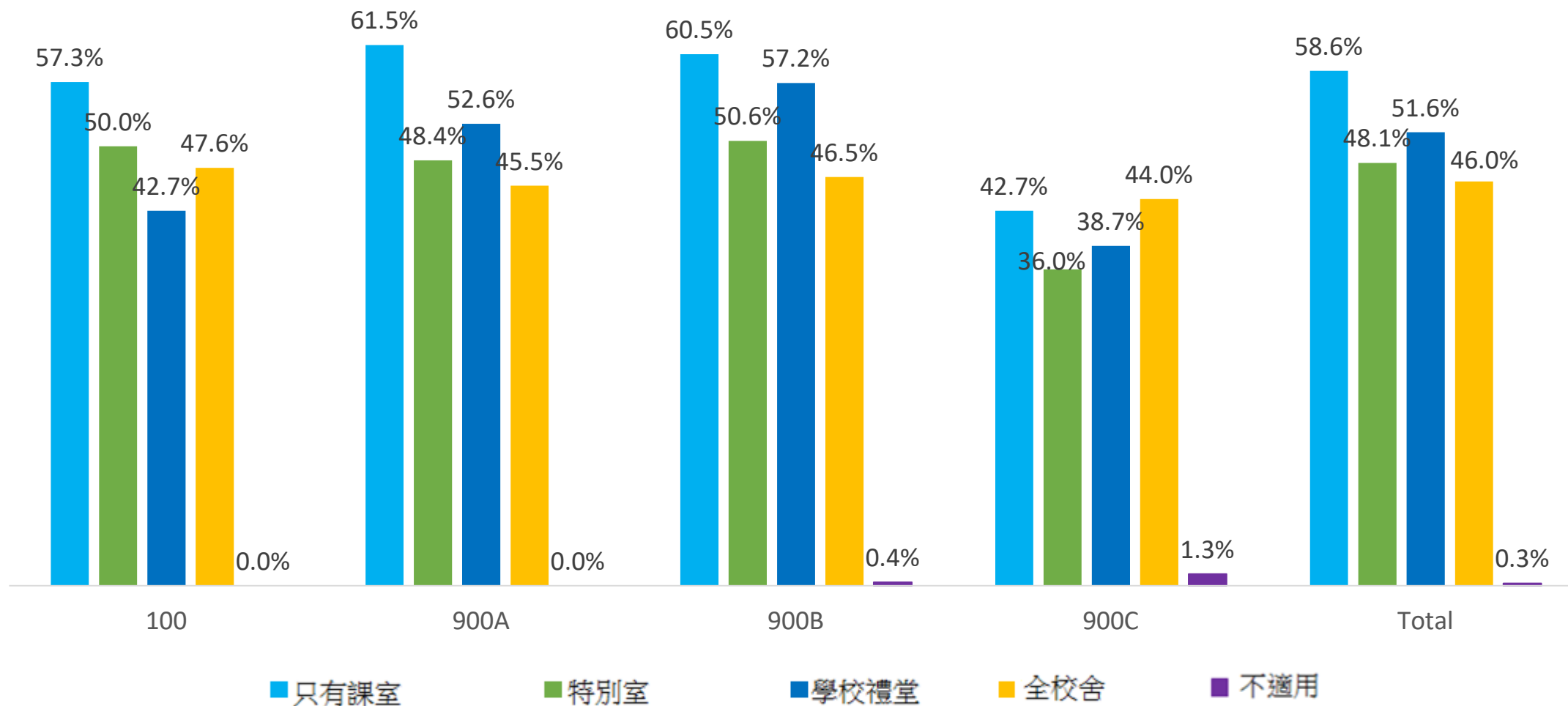
進展



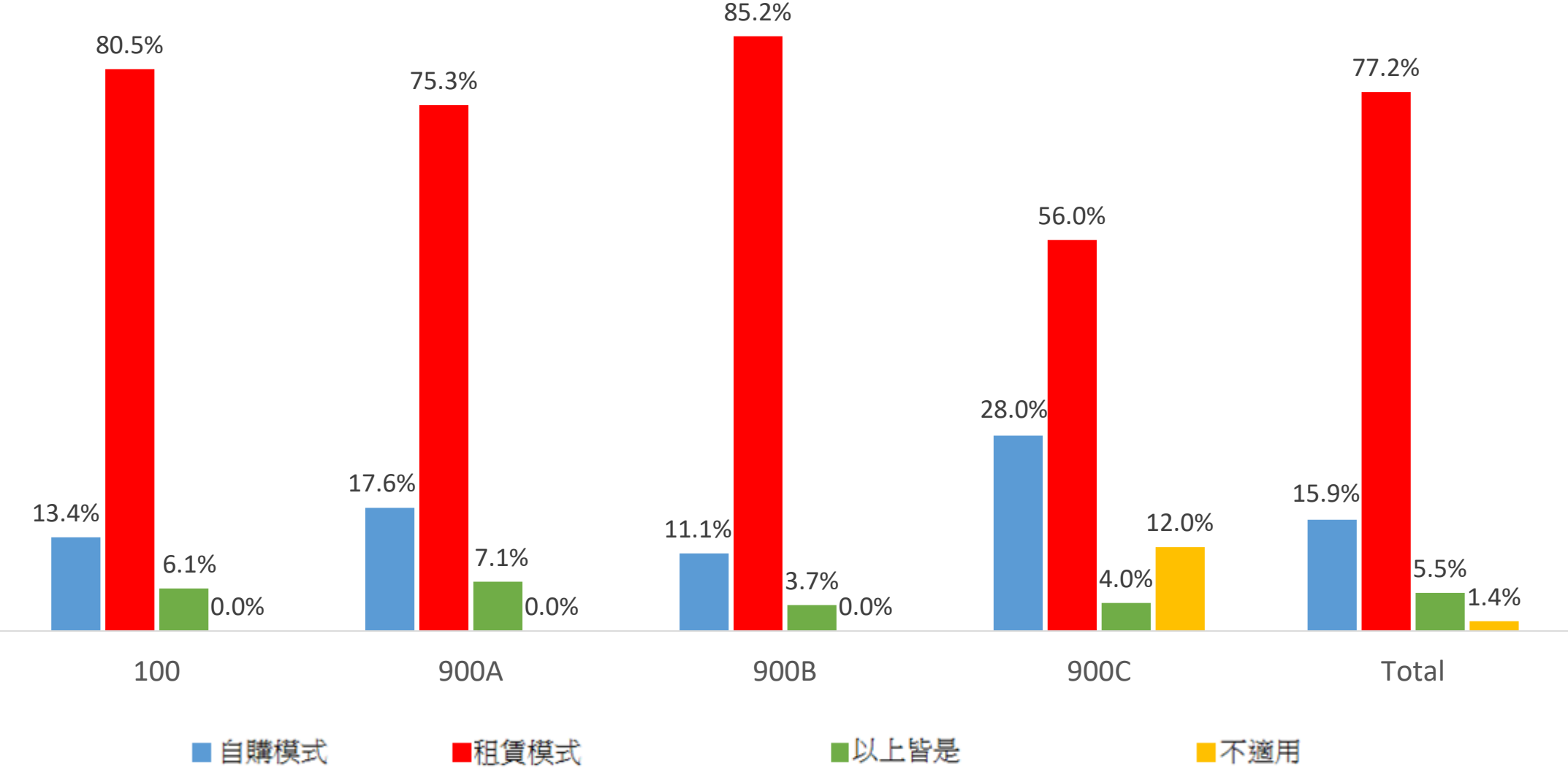
ITE已納入在學校的發展計劃



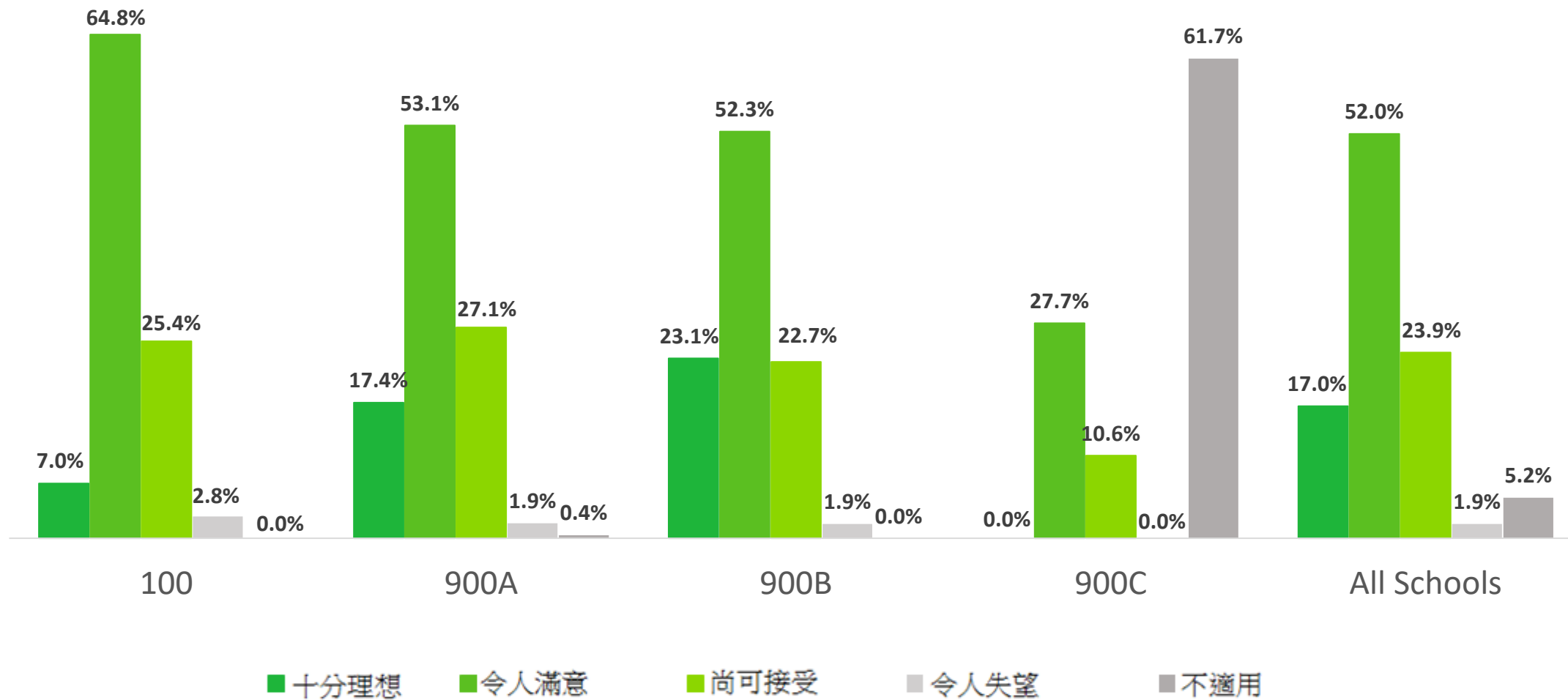
16/17 學年推行情況



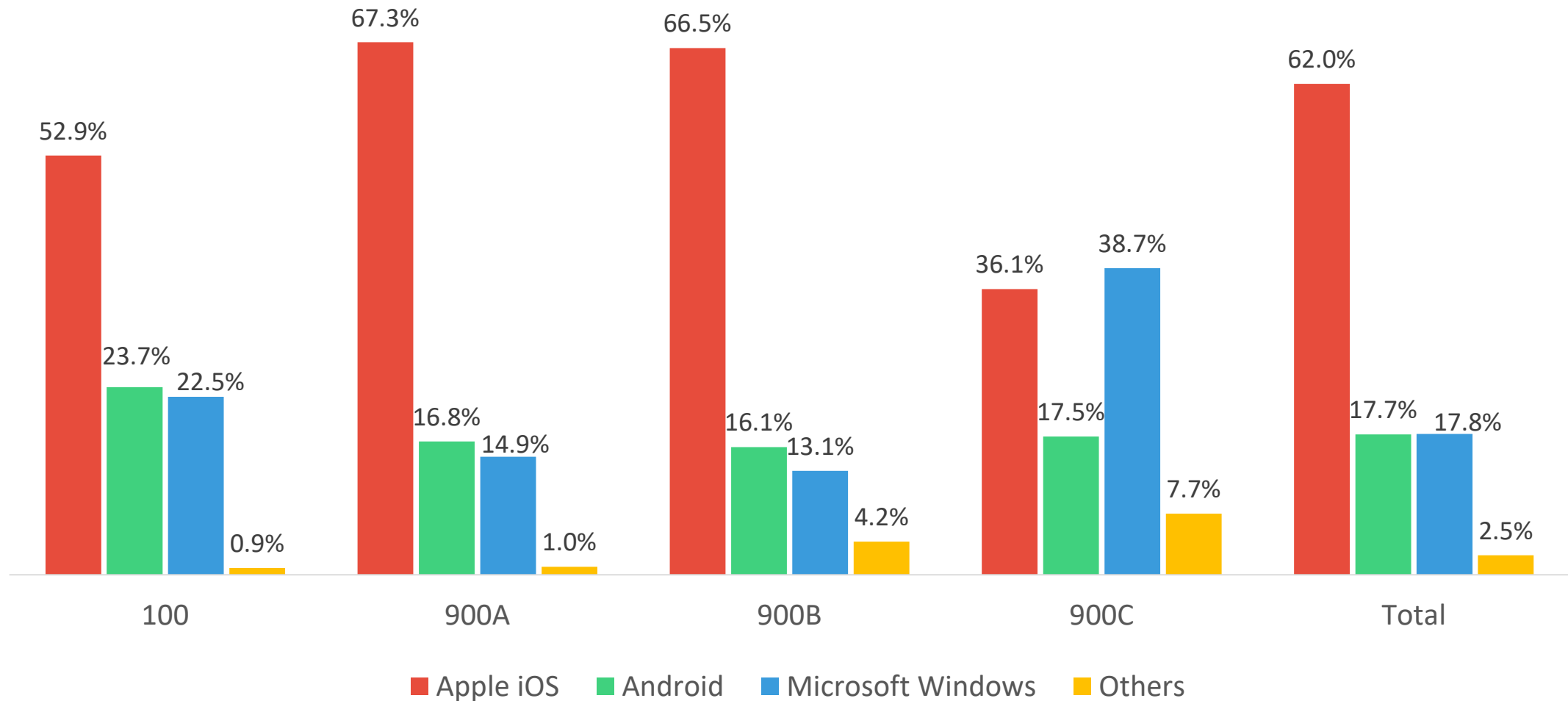
學校採用的 WiFi 服務模式



學校如何評價無線網絡服務供應商的服務

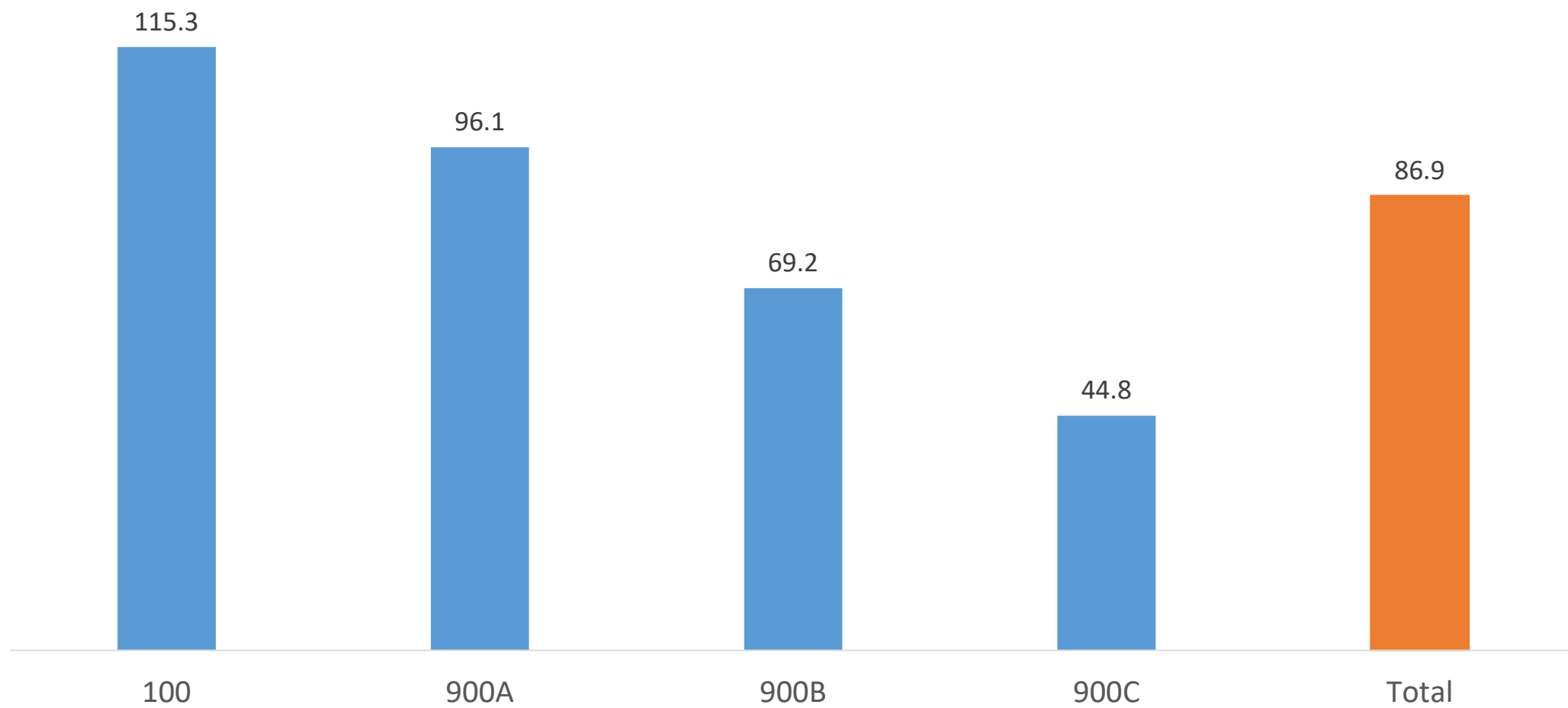


學校流動裝置的操作系統

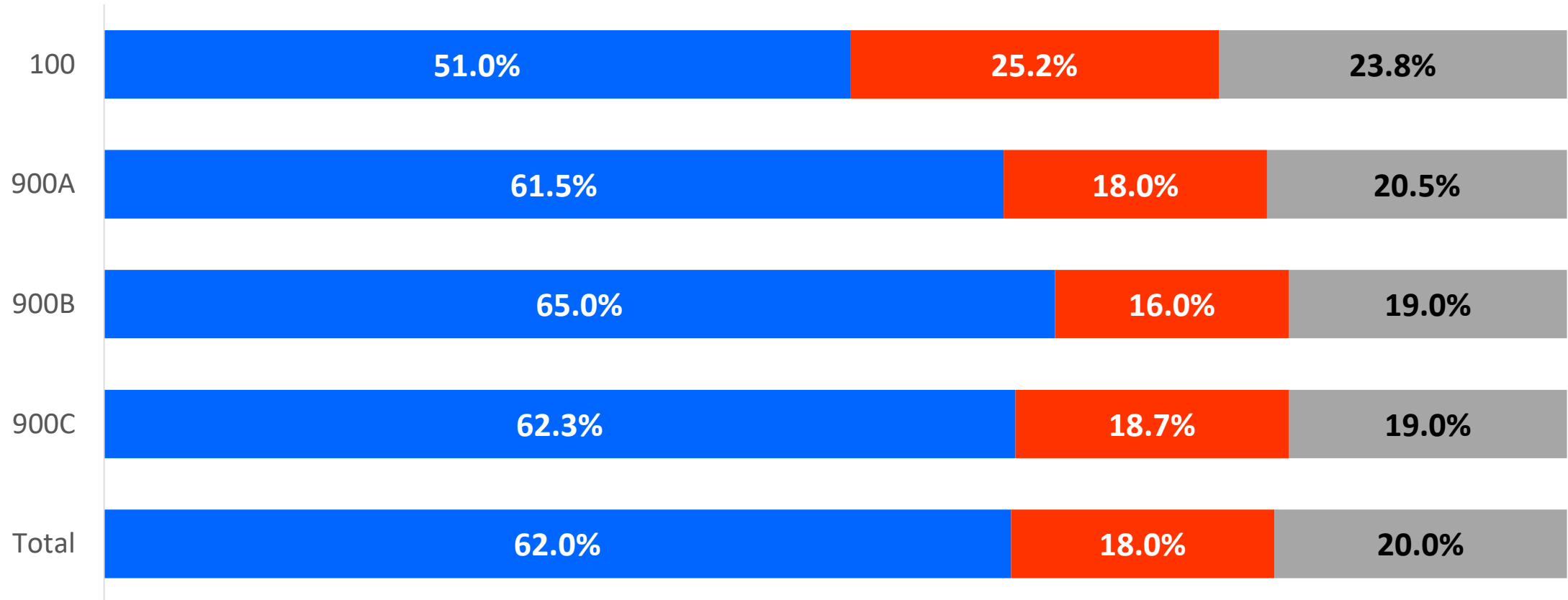




學校擁有流動裝置的平均數量



OITG 在三個範圍內的估計分佈

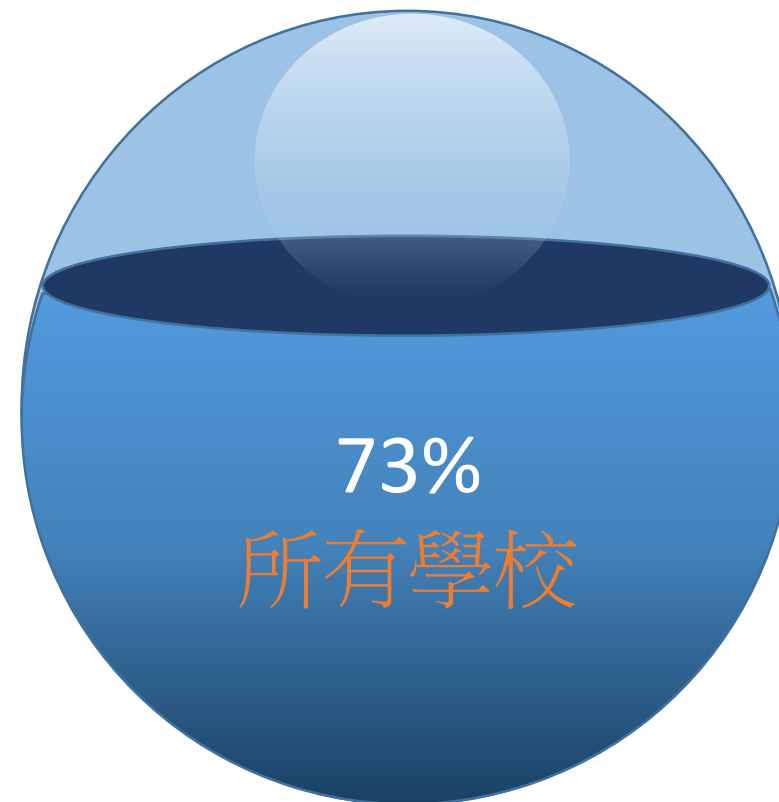
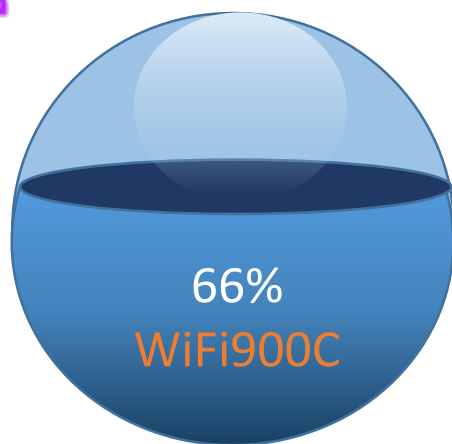
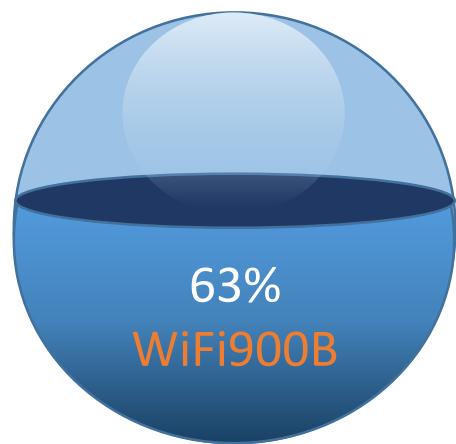
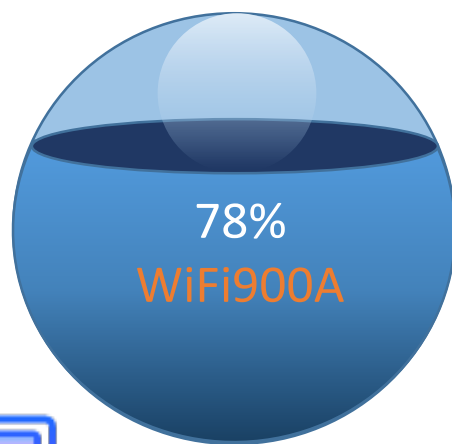


■ (i) 購置流動電腦裝置供學生使用

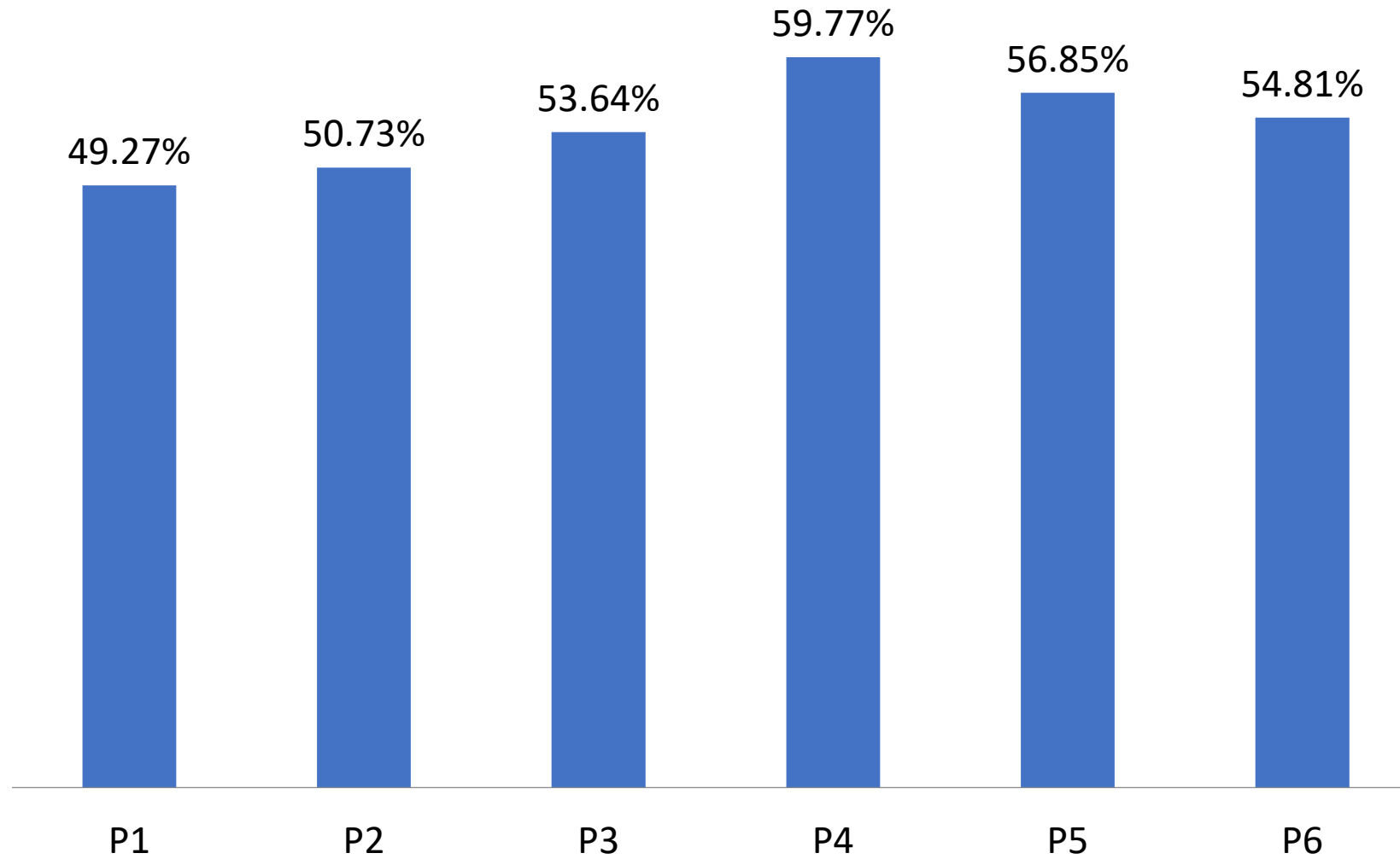
■ (ii) 僱用或透過服務採購方式增加人手，以加強對流動電腦裝置的技術支援

■ (iii) 訂購電子學習資源、軟件或平台支援電子學習

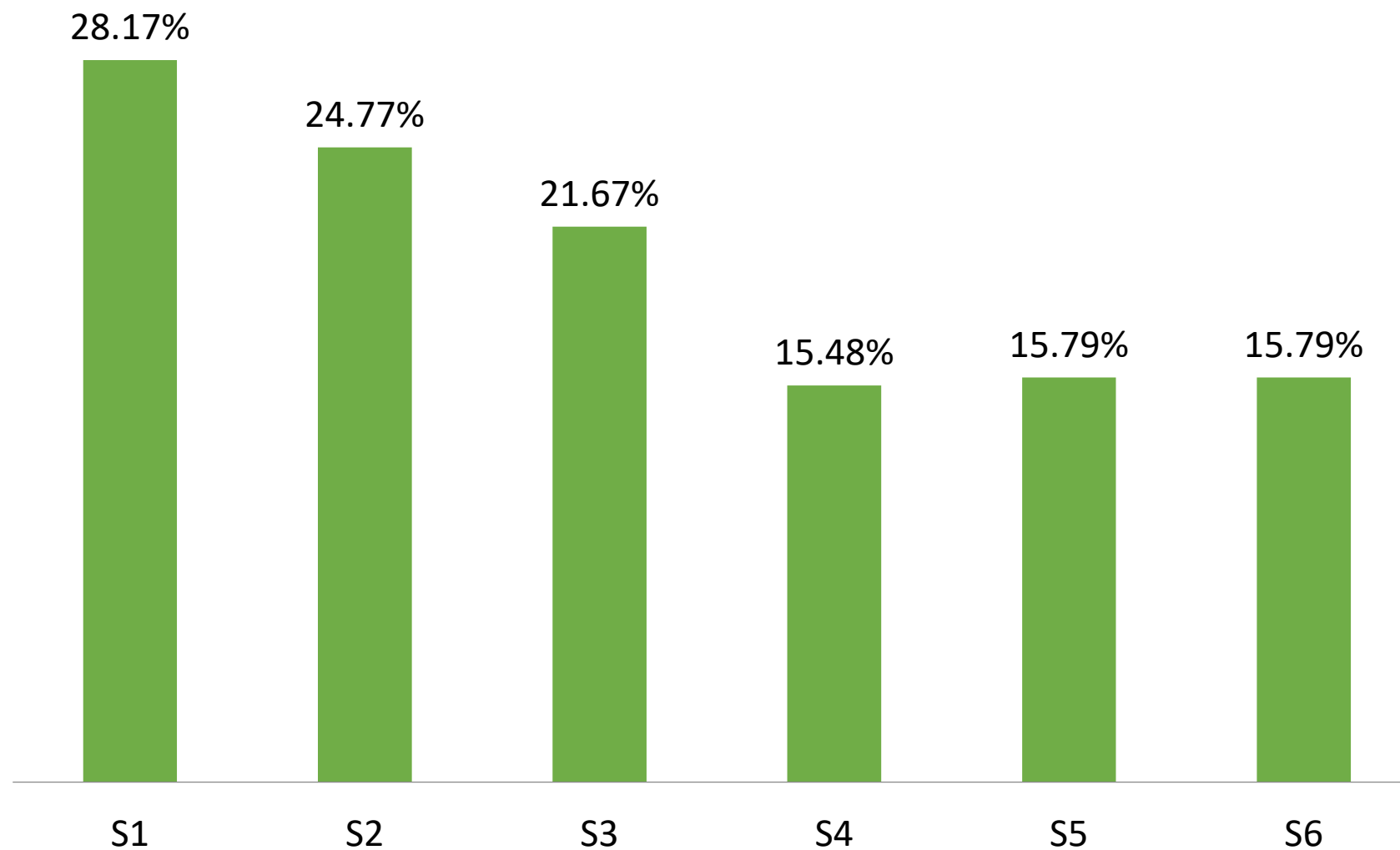
學校採用 LMS



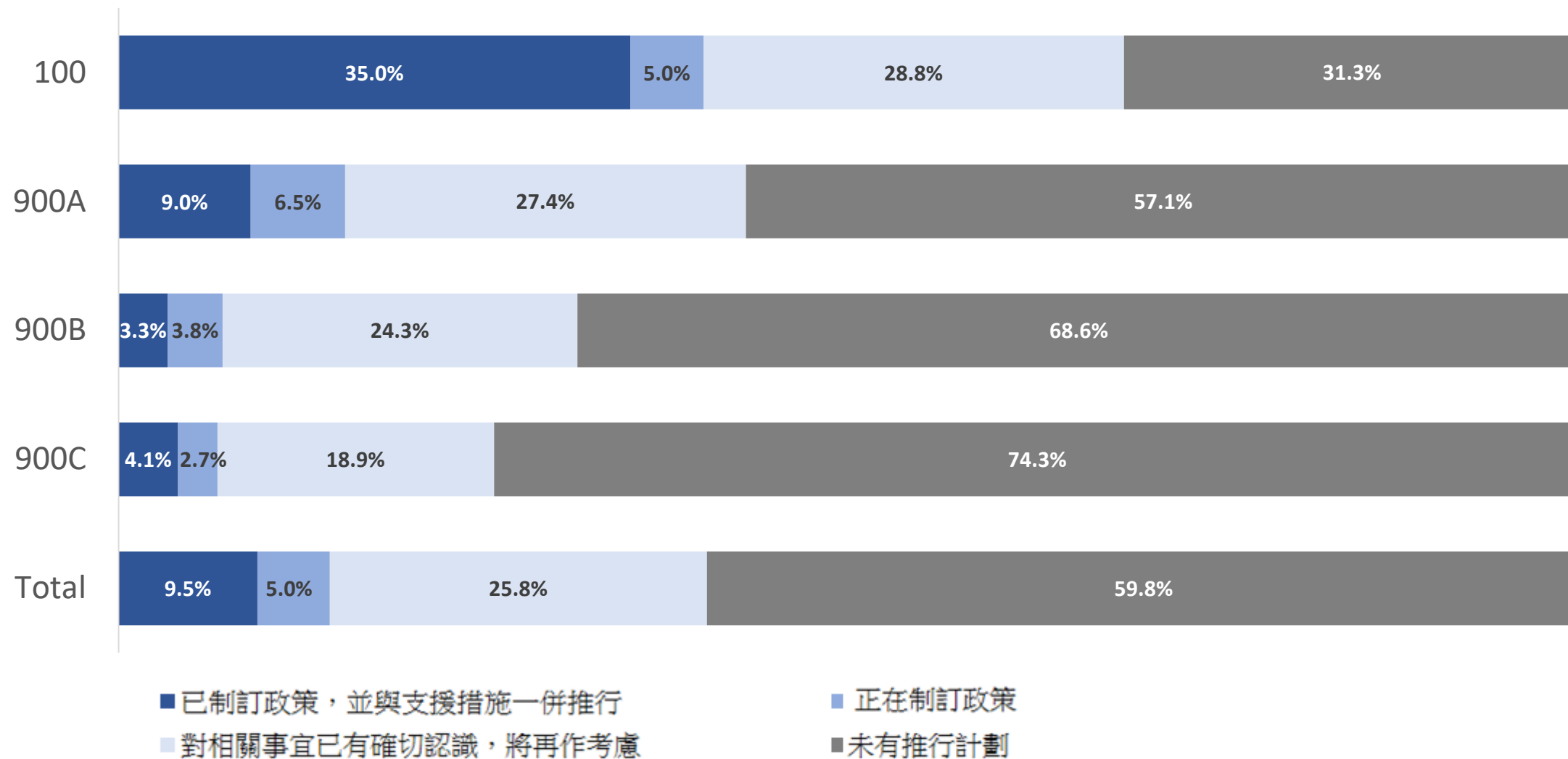
使用電子教科書（小學）



使用電子教科書（中學）



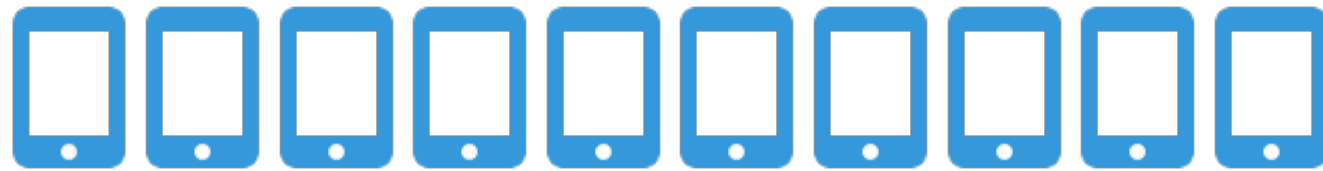
學校推行 BYOD 的計劃



學校的 BYOD 平均班數



WiFi100
11.7 班

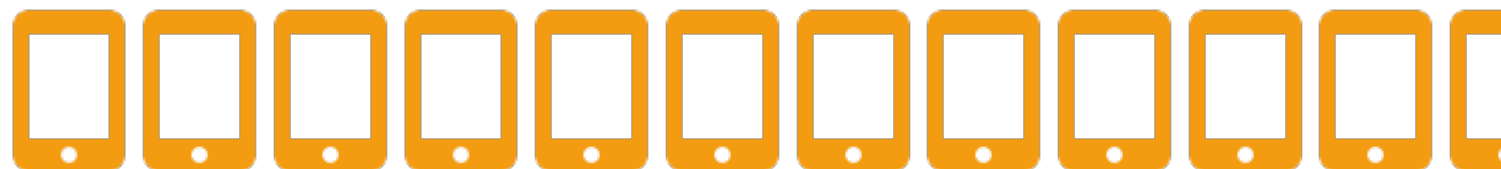


WiFi900A
9.0 班



WiFi900B
7.6 班

WiFi900C
0 班



所有學校
10.5 班

指定規格為學生購買流動裝置



83% 的 BYOD 學校給予學生指定規格

撥款安排



WiFi 900 第一批學校	一筆過撥款 經常性津貼	經常性津貼	經常性津貼	經常性津貼
WiFi 900 第二批學校		一筆過撥款 經常性津貼	經常性津貼	經常性津貼
WiFi 900 第三批學校			一筆過撥款 經常性津貼	經常性津貼
WiFi 100 學校			經常性津貼	經常性津貼

*教育局容許學校保留本學年經常性津貼的未用餘款，並轉撥到下學年使用。教育局將根據學校經審核的周年帳目，收回超出本學年年度津貼的餘款

撥款安排

班數	經常性津貼
18班或以下	\$48,530
19至24班	\$66,740
25至30班	\$84,940
31至36班	\$103,140
37班或以上	\$121,340

資訊科技教育津貼

經常性

資訊科技綜合津貼

\$197,929 – 680,748

- 與資訊科技相關的消耗品
- 互聯網費用
- 聘請技術支援人員
- 延長開放校內資訊科技設施
- 保養維修、提升及更換學校資訊科技設施

ITE4

平均\$70,000

- WiFi 費用
- 保養維修及更換流動電腦裝置

資訊科技人員支援津貼

\$300,000

- 聘請資訊科技人員或委託資訊科技公司提供駐校員工

一筆過

ITE4 (平均\$100,000)

- 購置流動電腦裝置

OITG (平均\$200,000)

- 購置流動電腦裝置
- 僱用或透過服務採購方式增加人手
- 訂購電子學習資源

學校推行自攜裝置 (BYOD) 的技術考慮要點

- WiFi覆蓋 - 涵蓋所有WiFi用戶需要無線連接的區域
- 寬頻容量 - 評估有線網絡和無線網絡的帶寬要求用於支援所有BYOD裝置
- WiFi網絡安全 – 應用以下控制措施來保護WiFi網絡和WiFi用戶
 - 使用 session control，例如 Hong Kong Education City accounts的認證系統，去限制同時使用BYOD裝置連接無線網絡
 - 使用裝置管理系統來執行合規性檢查，確保BYOD裝置已更新到最新的操作系統和已更新防毒軟件

建立無線網絡校園的相關技術文件

1. 用戶要求檢查清單 (Info note)
 - 檢視學校需要使用無線網絡的地方和細節
2. 用戶要求範本 (Requirement spec)
 - 跟據檢查清單預備報價文件內技術要求的部分
3. 系統測試 (System Test)
 - 承辦商測試無線網絡系統運作
4. 用戶測試範本 (UAT)
 - 完成工程後測試無線網絡效能的計劃
5. 資訊保安建議實踐內容 (Recommended Practices on Information Security)

*上述文件正進行更新中，稍後將上載到 WiFi 900 的網站

WiFi 900A 學校更新服務注意地方：

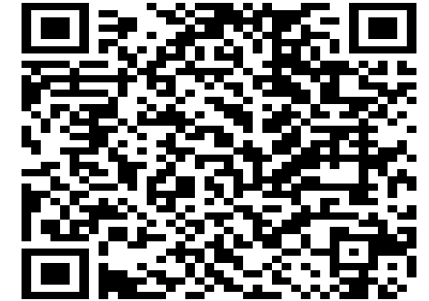
最新用戶要求範本下載：

www.edb.gov.hk/ited/wifi900

<http://www.edb.gov.hk/tc/edu-system/primary-secondary/applicable-to-primary-secondary/it-in-edu/WiFi900/technicaladvisory.html>

其中需注意的部分如下：

- Contract End Arrangement
- Exit Plan
- Sub-Contracts
- Delay of Schedule



完約安排 (Contract End Arrangement)

- Contract End Arrangement – All provisions of trunks, conduits, cables, LAN ports and power points shall be considered as fixture of the School and shall become the property of the School. The Contractor shall remove or keep those provisions according to the instruction of the School. Contractor can remove the network equipment such as switch, routers, and access points.

服務水平 (Service Level Rebates) 及終止合約 (Termination of Service)

4.7 Service Level Rebates

4.7.1 The Service Rebates to the School operate as liquidated damages for the performance fallen short of the target service levels over a period of one month. The service measures stipulated in 4.6 will be used to determine the Service Rebates in Service Availability (S1) and Service Resumption Time (S2).

4.7.2 The application of the Service Rebates monthly charge will commence with the start of the reliability test.

4.7.3 For each month, the Service Rebates (S1, S2) will be calculated as below based on the target Service Levels for the Service Availability agreed:

Failure Hour x [(Yearly Subscription Fee) / (Number of Months)]

Failure Hour: The unscheduled network downtime due to the failure of hardware or software.

4.10 Termination of Service

4.10.1 The School reserves the right to terminate all or part of the Service at any time with written notice of 10 working days in advance if:

- The Contractor fails to meet the target service levels under Service Level Requirements for two consecutive months, or three months in total within the committed subscription period;
- The School suspects that unauthorized activity has occurred or is occurring in relation to the Service;
- The provision of the Service will cause the School to be in breach of any applicable law;

4.10.2 The Contractor shall provide to the School and implement the **Exit Plan** in accordance with:

終止合約 (Termination of Service)

- The **Exit Plan** shall aim at enabling the School or its authorized parties to perform in substitution for the Contractor and to eliminate or minimize any disruption or deterioration of the Service. The Exit Plan shall contain, but not limited to the following information:
 - Detailed exit procedures, disengagement timetable and actions to be taken by both the Contractor and the School for smooth termination of all or any part of the Service;
 - Any information that is necessary for the School or a new service provider to continue the provision of the Service;
 - Details of the Contractor's personnel and other resources that will assist the School or the School's authorized parties during the handover;
 - All provisions of facilities such as trunks, conduits, cables, LAN ports and power points, shall be considered as fixture of the School venues and shall become the property of the School. The Contractor shall remove or keep those provisions according to the instruction of the School. Contractor can remove the network equipment such as switch, routers, and access points.
- The Contractor shall be responsible for the implementation and execution of the Exit Plan and shall ensure that the exit plan is carried out in a timely and orderly manner.

分判商 (Sub-Contracts)

7. Sub-Contracts

7.1 The Tenderer shall be the prime Contractor for all the services specified in Part X and Part Y of this contract. The Tenderer shall be the single point of contact for all contractual matters.

7.2 The Tenderer shall be liable for the performance or breach of any provisions of the contract by Sub-Contractors.

7.3 The Tenderer shall provide details of the sub-contract service for the Wifi operation and maintenance of the Sub-Contractors in the format listed on Section 5 of Part Y. The hierarchy of the sub-contracting shall also be clearly stated below. If there are no Sub-Contractors, please enter nil.

7.4 No Sub-Contractor(s) specified in Section 5 of Part Y shall be replaced unless prior written consent has been given by the School.

7.5 The Tenderer shall ensure that the quality of the service rendered by the Tenderer shall not be affected due to any change of Sub-Contractors;

服務延誤 (Delay of Schedule)

9. Delay of Schedule

9.1 If the Contractor fails to provide any part of the WiFi service which shall be ready for use in the School within 60 days after the target Ending Date specified in Section 8 of Schedule of Work then notwithstanding anything else contained in this Contract the School shall be entitled to terminate this Contract with forthwith by giving written notice to the Contractor and to recover from the Contractor the amount of all damages and loss suffered by the School resulting from such failure, including without limitation to any damages and loss resulting from the termination of related service orders.

9.2 Within one (1) week of the termination of this Contract, the Contractor shall collect its own Hardware and Software at his own cost after the contractor has removed the School Data in the Hardware.

9.3 The Contractor shall reinstate and make good the concerned area of the School to the satisfaction of the School after removal of the hardware.

用戶測試(User Acceptance Test)

- 技術顧問可為學校的用戶測試計劃提供意見
- 教育局將提供約25部平版電腦 (Android 802.11ac tablets)
供學校預約進行用戶測試
- 包括常用軟件

建議日程

項目	WiFi 900A	備註
制訂用戶要求方案及用戶要求	2017年12月至2018年3月	檢視清單
學校準備報價文件	4至5月 (可盡早進行)	檢視清單、用戶要求範本及技術顧問服務
學校收到本局有關撥款詳情的來函	4月至5月	預計於年中致函校長有關撥款詳情
邀請報價及審閱程序	5至6月 (可盡早進行)	技術顧問服務
批出合約	6月 (可盡早進行)	預計9月前撥款
工程	6至8月 (可盡早進行)	制訂系統測試及用戶測試

查詢

- <http://www.edb.gov.hk/ited/wifi900>
- 使用撥款：(852) 3698 3606
- 專業發展：(852) 3698 3610
- 技術顧問服務：(852) 3698 4148 / 3698 3566
- 資訊科技教育卓越中心
- <http://www.edb.gov.hk/ited/coes>
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