

出國報告（出國類別：國際會議）

**邁向頂尖大學計畫-卓越服務學習輔導
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摘要

非常感謝與珍惜學務處給予的和化材系執行的這次服務學習機會，藉由會議，理解兩種不同屬性的服務學習，其一是志工活動，另一類是 Project/Problem-based Learning (PBL)。前者類似公民品格教育，而後者則依據教師們以社區/教學需求為目標結合專業，定義學生們的專題。和《大戴禮記·保傳》的「束髮而就大學，學大藝焉，履大節焉。」若合符節：面對社會社區的需求藉由 PBL 動手學大藝，藉由志工活動和同儕切磋品格的鍛鍊。本報告以下列六個項目，整理(一)國際上的服務學習活動，(二)具代表性的台灣團體參展內容，(三)中大服學的展望，(四)教材設計與評量類的演講摘要，(五)心得結語，(六)附錄相片紀錄與講義摘要。

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壹、目的

藉由參加國際服務學習會議，提升本校服務學習課程設計，並發表一篇論文，論文題目為 Taiwan Undergraduate Network for Syin-lu Social Welfare (縮寫為 T-ANSWER)，透過參加會議，理解到兩種不同屬性的服務學習，其一是志工活動，另一類是 Project/Problem-based Learning (PBL)。前者類似公民品格教育，而後者則依據教師們以社區/教學需求為目標結合專業，定義學生們的專題。和《大戴禮記·保傳》的「束髮而就大學，學大藝焉，履大節焉。」若合符節：面對社會社區的需求藉由 PBL 動手學大藝，藉由志工活動和同儕切磋品格的鍛鍊。

貳、過程

以下為論文報告內容：

(一) 國際上的服務學習活動：

美國：

The 25th Annual National Service-Learning Conference and 26th Annual Global Youth Service Day 是由 Dr. James Kielsmeier 在 1983 創設的 National Youth Leadership Council 主辦。大會安排的活動包含 lectures, 資深領袖講者(美國第一位女性的最高法院法官，Sandra O'Connor)與青年領袖講者(推動廚餘廢油轉生質燃料的執行，立法的國中生 Cassandra Lin 等), 和教育部長以及交通部長的閉幕演講, 和我們各別參展的 showcase 個案展示。

大會透過上述 plenary talks, 凸顯青年(國高中生成就)的無限可能, 並由前美國最高法院大法官 O'Connor 親身描述, 就算她從 Stanford University-Law School 畢業, 卻於當時兩性不平權的美國, 沒法找到律師工作的就業壓力下, 如何一路奮鬥並投身社會, 以推動時代的進步。用這樣的跨世代對話, 鼓勵青年正視現實, 接受挑戰, 以即早以社會為對象的練習成為世代接棒的負責公民。教育部長 Arne Duncan 直接挑戰老師們的 comfort zone, 他舉擔任芝加哥教育局長時的經驗為例: 學生離開教室是因為不知道課程可以用在哪, 而感到無趣。相對的, 他所推動的服務學習讓學生們體驗來學校, 可以成為對社會有貢獻的人。因此當老師們了解社會/社區需求, 設計現有課本沒法涵蓋的社區實務教材, 自然可以讓學生從切身的環境學習, 並由社區的因學生專業服務而進步, 進而得到學習成就感。

而各別的 lectures, 就聚焦於服務學習不同層次的挑戰, 實務的分別就課程設計與評量等, 具體的讓與會者除了被 plenary talks 激勵的熱誠外, 有系統化的工具, 來理解執行服務學習的核心目的<將分述於(四)教材設計與評量類的演講摘要和(六)附錄相片紀錄與講義摘要>。

行前教育部已邀創設 National Youth Leadership Council 的 Dr. James Kielsmeier 和台灣與會團體早餐會。現已退休的 Dr. James Kielsmeier 很希望能拓展在美國之外的服務學習實踐機會。

此外,另藉由教育部智慧生活人才培育計畫主持人蔡志宏教授主持的 Service-Learning in Engineering Education: Rationale and Approach 早餐會,和 Robert G. Bringle 交流。Robert G. Bringle 是 Professor Emeritus of Psychology, Indiana University-Purdue University Indianapolis。曾擔任 Director of the IUPUI Center for Service and Learning。

當我請教他執行的資金來源時,他的回答反應出能夠永續執行的服務學習計畫,要面對社區與學生需求:是學生們去找到有資金支援的題目,再去拜託他的服學中心媒合專長相關的指導老師。資金支援反映出社區/計畫的價值,希望藉由大學生投入的人力解決。而這樣的運作,Prof. Bringle 不只集結出書,在他被引用 656 次的"Implementing Service Learning in Higher Education"¹ 中他特別強調"**We view service learning as a credit-bearing educational experience in which students participate in an organized service activity that meets identified community needs and reflect on the service activity in such a way as to gain further understanding of course content,** a broader appreciation of discipline, and an enhanced sense of civic responsibility. **Unlike extracurricular voluntary service,** service learning is a course-based service experience that produces the best outcomes when **meaningful service activities are related to course material** through reflection activities such as directed writings, small group discussions, and class presentation"。¹

新加坡:

這次有幸認識新加坡 NGO 的"觸愛青年服務部"Director 林菁清。相對於上述 Prof. Bringle 強調的大學參與,新加坡推動的是大學前的服務學習。而 NGO 的觸愛青年服務部正參考香港嶺南大學,幫政府建立衡量服務學習的指標績效機制。

這樣的 NGO 功能開始在新加坡發揮功效,據 Director 林菁清的描述,是因為新加坡執政黨上次的大選挫敗,而舉辦了類似全民會議的"Our Singapore Conversation"(http://en.wikipedia.org/wiki/Our_Singapore_Conversation)。對於學生只重視成績確沒有公民素養的失能,提出教育改革,才會讓 NGO 組織所主張的服務學習,進入正式的教育課程。所取代的是新加坡原有卻通常被別的科目拿去使用的 Civic Moral Education (CME) 授課時間。他們希望學生在成年前(進大學前),就有完整的 Citizen Characteristics Education。

香港:

嶺南大學的服務研習處馬學嘉博士的計畫,應該是亞太區最知名的。她將於今年十一月訪台參加教育部主辦的服學會議。她本人也很樂意參訪中大交流。

這次會議中,每當我向與會的學者請教時,許多人都跟我說可以去找馬學嘉博士。馬博士說她這七年來,先做的第一件事是募款,最大筆的包含 DHL 的五百萬,而校方就會再給予 matching fund。其次,她分工學務處與各系的不同角色:各系老師提供專業的 PBL 專題,而學務處開授服務學習課程,幫忙教育同學服學的重要性。在全校性的實施前,她利用募款招募有興趣的先遣試驗行的老師赴美觀摩服務學習的 PBL 設計。連續三年每年十位,就陸續成為 PBL 的種子示範性教師。

除此之外,她也理解亞太區域老師們的發表需求,她也積極推動亞太區域的交流,並提

出了除了 Michigan Journal of Community Service Learning 之外,她將分享相關學術文章索引,甚至朝著辦新的期刊的方向來提升大專教師從事服務學習的交流。

中國大陸:

根據馬博士的資訊,北京市找了服務學習的資深積極推動者 Cathryn Berger Kaye 對三百多位的校長(K-12)啟動服務學習,而在廣東省,則是在大學中推行公益教育。另上海協和國際學校的學生生活主任則說,他們是在上海針對外國人所設的學校,他們也正執行著 K-12 的國際學習。

參考資料:

1. Bringle, R. G.; Hatcher, J. A., Implementing service learning in higher education. *The Journal of Higher Education* **1996**, 221-239.

(二)具代表性的台灣團體參展內容

台灣的參展團體主要由教育部的(1)青發署服務學習示範性計畫書競賽優勝隊伍以及其他志工競賽優勝單位和(2)教育部的智慧生活人才培育計畫一起與會。值得參考的內容描述如下:

- (1) 師大全人教育中心劉若蘭教授的計畫發展出反思指標,可以用來追蹤學生的"服務學習"相關核心能力因為授課進度與內容演進的發展,可以系統性的幫助老師分析"服務學習"相關教學技巧。
- (2) 智慧生活人才培育計畫在北醫的高齡照護計畫,利用大學的工程能力,製作結合行動設備的 App 於社區關懷。
- (3) 智慧生活人才培育計畫在政大的大稻埕導覽計畫:大學生們先帶著大稻埕的兒童了解大稻埕史地,內容收齊後利用大學的工程能力,製作結合行動設備的 App,和台北市的大稻埕觀光,在地小吃商家結合,導入社區的興趣,由社區居民主動反向更新大稻埕史地觀光內容於 App,並得到商家的贊助費用,達到類似上述 Prof. Bringle 的服學課程的在地價值目標。
- (4) 宜蘭縣領袖發展協會的組織成員類似蘭友會,但他們的執行方式是組織起全台的宜蘭學子,利用課餘時間返鄉關懷。例如找耆老口述歷史,找接待家庭招待外籍生赴宜蘭過年,成立才三年多的他們靠著自主募款與對宜蘭的熱愛,學生們設計並執行出高品質有創意的蘭陽特色計畫。

(三)中大服學的展望

服務學習的目標是希望透過課程設計教育中大的學生上述的眼界,志向,社區關懷和品格發展。新加坡和美國所推行的教學工具分別是"Problem-based Learning"和"Project-based Learning"。在新加坡,他們定義的社會問題包括網路霸凌等,發生在青年人的難題,希望引導學生正視這些問題的同時,了解這是負責任的公民所不該犯的且該解決的。因為目標對象是中學以下的學生,比較像是務實的更新 Civic Moral Education 的教材並確實授課。

對比的是 Prof. Bringle 的"Project-based Learning"的"Service Learning"計畫。因為後學

去年所執行的是化材系的“類 PBL”服務學習,會覺得甚至可以類比今年台裔少女 Cassandra Lin 獲得大會青年獎的 7th grader and co-founder, Project T.G.I.F. (Turn Grease Into Fuel)服務學習計畫(<http://businessinnovationfactory.com/iss/innovators/cassandra-lin>),化材系應該有研究實力可以推動像 Cassandra Lin 在 Rhode Island 執行的將廚餘廢油帶進實驗室轉成生質燃料,再用於校車,甚或找桃園縣議會和縣政府推動全桃園的廚餘廢油轉生質燃油計畫,至於較低階的生質燃料 Cassandra Lin 用於 Storm Sandy survivors 的取暖燃油,也可供參考。

同理,有資工專長的系所或可參考上述的智慧生活人才培育計畫。因為我們也有中壢本地的醫護相關,觀光相關,在地食材追蹤的社區 App 需求。雖然 App 的撰寫需要專業能力,但跨院系的讓非理工同學生從內容的收集和編撰開始,或可讓同學們在出校門前就有跨領域實作的團隊合作經驗。至於教材的準備技巧與原則,可參閱下一節(四)教材設計與評量類的演講摘要。

同時,上述的服學得獎內容,其實也都有潛力得到科技部,交通部觀光局(補助樹德科大參展的蓮池潭觀光 App)或是環保署甚至文化部的補助。如果能引導同學們將專業導入股服學的話,他們其實可以透過大專生專題計畫得到補助,獲得老師們小班的指導,更多的老師們也會更有動機執行具有研究性質的社區挑戰。對學生而言,考慮循甄試管道的學生,也會有動機以這種更具科系專業性質的服務學習,當成自己大學的代表作。

總體而言,中大推行的 100 小時服學時間,是走在各校之前,大一的必修服學更提供了老師們認識在地社區問題的機會,以及嘗試以各系專業設計符合該系 common core state standards 的課程:有一學年時間,逐步的帶領學生了解所學對社區的貢獻。而另外的 60 小時時數則類似公民素養的教育。

因此,很樂觀的相信,兼具了宗教大學志工性質的 60 服學時數,加上中大各系 PBL 性質的服學,中大將是最有機會透過各系老師們的切磋下,成為前幾個提出"台灣/各科系 Project-based Learning-服務學習 common core state standards"的大專院校。而同學極有機會得到高品質的服學 PBL 計畫,來幫助他們自己的升學與就業。未來甚至可以成為中大各系特色招生與自主評鑑的亮點。

(四)教材設計與評量類的演講摘要

各課程先以摘要簡述,並在標題前分類,重要資料以附件方式放在此摘要之後。

1. (教材類) Susana Valdes, National Youth Leadership Council 的 Using Common Core State Standards to Design Academically Rigorous Service-Learning Experiences:

- 甲、高品質服學題目的 criteria (附件一: K-12 Service Learning Standards for Quality Practice)
- 乙、評量服學題目深淺的 criteria (附件二: The project-based learning continuum)
- 丙、如何和專業科目連結 (附件三: Link to Curriculum 和附件四: PBL and Common Core and Next Generation Science Standards)

2. (教材類) Dr. Paul Baumann, National Center for Learning 的 State Policies for

Service Learning: Where Do We Stand: 美國各州也有該志工為重還是 PBL 為主的服務學習的不同差異。

3. (教材類) Dr. James Toole, Compass Institute 的 How would Steve Jobs Design a Service Learning Projects: 以同理心設計學生有興趣想學的題目,但美國在推動時,會遇到學生的挑戰,因為學生的生活中,看到從事社區勞動服務的包含法院判罰的犯罪者。但是 PBL 為主的挑戰則來自老師們不見得想離開舊教材,另花時間設計新計畫。
4. (評量類) Elizabeth Koenig, National Youth Leadership Council 的 Progress Monitoring Getting Where You Want to Go:
 - 甲、服學成果評量表(附件五: Progress Monitoring: Assessment Rubric)
 - 乙、服學執行前和學生討論學習進度的 SOP (附件六: Progress Monitoring: Negotiating Project Plans with Students)
5. (教材類) Rachelle Adams, Barrie Schools 的 Themes as a Universal Connection to Curriculum, Student Experiences, and Meaningful Service: 設計服學課程的學習目標(附件七: Essential Capacities for the 21st century schools of the future committee; 附件八: 新加坡的學習目標: Singapore Ministry of Education 21st Century Capacities)
6. Dr. Enrique Ochoa, CLAYSS 的 Institutional Service Learning Programs and Policies: the Latin American Experiences: 南美洲的大學早在百年前就已經有了這樣的概念,並逐步法制化。推動的阻力主要在教師對於設計新課程的排斥。如果未來服學的需求上升,像是 Duke 的 PBL 教育或許會成為未來 Duke 學生更具就業市場競爭的理由。比較有意思的數據是部分墨西哥的大學對於服學的畢業時數要求是在一到兩年內完成 360~400 小時。

參、心得與建議

這幾年教授工學院與化材大一的普化,總是需要和同學描述 Open, Closed, 和 Isolated Systems 的差異。也藉此鼓勵同學們在學期間不要 isolated 於社會之外,不然一出校園,接觸 surroundings 時的學用價值落差會衝擊太大。同理,老師們的備課,如果也 isolating 於台灣社會之外,也可能難以就我們的社會,帶著同學們學大藝履大節。當然,學校也並非 open system,可以讓各種社會的弊病肆無忌憚的直接進入校園。所以, academic curriculum-oriented 的教材選擇/設計應該是基本公約數。

因此,服務學習是最好的以 PBL 形式培育公民的技能與關懷的課程,用專業且符合倫理的 academically rigorous paths 引導學生,一步步的和 surrounding 的社會,以非 sudden change 的四年 100 小時,慢慢雙向 irreversibly 提升自己的能力,解決社區的問題。

而執行的參與者或可考慮 Dr. James Toole 對美國服學的反思:社區服務是被法院判罰有罪者的勞改嗎?各系 PBL 服學執行老師的選拔過程,或可參考香港嶺南大學或是教育部的智慧生活人才培育計畫的經驗。吸引到可以解決社區/在地產業問題的老師加入,進而讓

學生搶著來參加,甚或一路在中大用這樣的題目完成碩士論文,甚至創業(例如:醫療與觀光 App 是極看好將隨著行動電子裝置成熟後的下一波內容產業)。

在校園中的同學們往往沒意識到,今天他們有冷氣的教室與有電子白板的教學環境,不是靠他們聯考的分數競爭而來的,相對的,這些軟硬體的積累是一代代納稅人和學校努力創建出來的。因此,他們理當不應該帶著高中前的 free ride 習慣,繼續享受前人提升的體制,只想系統化的用分數理解現存體制(甄試比成績,上補習班準備研究所考試)為終極目標。在變動中的台灣,學校如果繼續倚賴舊體制,台灣也就失去了挑戰世界的年輕新動能。相對的,身為教職員的我,再次非常感謝這次的學習機會,讓我可以學到以社會需求的角度,設計 PBL 教材與評量服務學習的能力,來面對同學的課程需求。

肆、附錄



(a)



(b)

去年與心路基金會合作的計畫展示: (a)靜態內容 (b)動態講解



(a)



(b)

(a) Service-Learning in Engineering Education: Rationale and Approach 早餐會,和 Robert G. Bringle 交流。(b) 教育部長 Arne Duncan 的閉幕演講。



(a)



(b)

今年化材系劉青原老師的計畫展示: (a)靜態內容 (b)與會者的參訪

K-12 Service-Learning Standards for Quality Practice

The K-12 Service-Learning Standards for Quality Practice were developed by the National Youth Leadership Council with funding from State Farm Companies Foundation. Working from a base of 20 years of professional wisdom and practice, NYLC worked with other leaders in service-learning and engaged RMC Research Corporation to ensure that the standards included the strongest evidence-based elements of effective practice. Then young people, teachers, school and district administrators, community members, staff from community-based organizations, policy-makers, and others interested in service-learning participated in panels across the United States to strengthen the language of the standards their indicators. For more information, visit www.nylc.org/standards.

Meaningful Service

Service-learning actively engages participants in meaningful and personally relevant service activities.

Indicators:

1. Service-learning experiences are appropriate to participant ages and developmental abilities.
2. Service-learning addresses issues that are personally relevant to the participants.
3. Service-learning provides participants with interesting and engaging service activities.
4. Service-learning encourages participants to understand their service experiences in the context of the underlying societal issues being addressed.
5. Service-learning leads to attainable and visible outcomes that are valued by those being served.

Link to Curriculum

Service-learning is intentionally used as an instructional strategy to meet learning goals and/or content standards.

Indicators:

1. Service-learning has clearly articulated learning goals.
2. Service-learning is aligned with the academic and/or programmatic curriculum.
3. Service-learning helps participants learn how to transfer knowledge and skills from one setting to another.
4. Service-learning that takes place in schools is formally recognized in school board policies and student records.



national youth leadership council

Service-learning is a philosophy, pedagogy, and model for community development that is used as an instructional strategy to meet learning goals and/or content standards.

project . more learning resources

system surroundings

Problem - based Learning
Project
Not Score - based
credit

regu

service



not industrialized yet

K-12 Service-Learning Standards for Quality Practice

Academically - specific, measurable, attainable, relevant, timely

Reflection

Service-learning incorporates multiple challenging reflection activities that are ongoing and that prompt deep thinking and analysis about oneself and one's relationship to society.

Indicators:

1. Service-learning reflection includes a variety of verbal, written, artistic, and nonverbal activities to demonstrate understanding and changes in participants' knowledge, skills, and/or attitudes.
2. Service-learning reflection occurs before, during, and after the service experience.
3. Service-learning reflection prompts participants to think deeply about complex community problems and alternative solutions.
4. Service-learning reflection encourages participants to examine their preconceptions and assumptions in order to explore and understand their roles and responsibilities as citizens.
5. Service-learning reflection encourages participants to examine a variety of social and civic issues related to their service-learning experience so that participants understand connections to public policy and civic life.

Diversity

Service-learning promotes understanding of diversity and mutual respect among all participants.

Indicators:

1. Service-learning helps participants identify and analyze different points of view to gain understanding of multiple perspectives.
2. Service-learning helps participants develop interpersonal skills in conflict resolution and group decision-making.
3. Service-learning helps participants actively seek to understand and value the diverse backgrounds and perspectives of those offering and receiving service.
4. Service-learning encourages participants to recognize and overcome stereotypes.



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K-12 Service-Learning Standards for Quality Practice

Youth Voice

Service-learning provides youth with a strong voice in planning, implementing, and evaluating service-learning experiences with guidance from adults.

Indicators:

1. Service-learning engages youth in generating ideas during the planning, implementation, and evaluation processes.
2. Service-learning involves youth in the decision-making process throughout the service-learning experiences.
3. Service-learning involves youth and adults in creating an environment that supports trust and open expression of ideas.
4. Service-learning promotes acquisition of knowledge and skills to enhance youth leadership and decision-making.
5. Service-learning involves youth in evaluating the quality and effectiveness of the service-learning experience.

Partnerships

Service-learning partnerships are collaborative, mutually beneficial, and address community needs.

Indicators:

1. Service-learning involves a variety of partners, including youth, educators, families, community members, community-based organizations, and/or businesses.
2. Service-learning partnerships are characterized by frequent and regular communication to keep all partners well-informed about activities and progress.
3. Service-learning partners collaborate to establish a shared vision and set common goals to address community needs.
4. Service-learning partners collaboratively develop and implement action plans to meet specified goals.
5. Service-learning partners share knowledge and understanding of school and community assets and needs, and view each other as valued resources.



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K-12 Service-Learning Standards for Quality Practice

Progress Monitoring

Service-learning engages participants in an ongoing process to assess the quality of implementation and progress toward meeting specified goals, and uses results for improvement and sustainability.

Indicators:

1. Service-learning participants collect evidence of progress toward meeting specific service goals and learning outcomes from multiple sources throughout the service-learning experience.
2. Service-learning participants collect evidence of the quality of service-learning implementation from multiple sources throughout the service-learning experience.
3. Service-learning participants use evidence to improve service-learning experiences.
4. Service-learning participants communicate evidence of progress toward goals and outcomes with the broader community, including policy-makers and education leaders, to deepen service-learning understanding and ensure that high quality practices are sustained.

Duration and Intensity

Service-learning has sufficient duration and intensity to address community needs and meet specified outcomes.

Indicators:

1. Service-learning experiences include the processes of investigating community needs, preparing for service, action, reflection, demonstration of learning and impacts, and celebration.
2. Service-learning is conducted during concentrated blocks of time across a period of several weeks or months.
3. Service-learning experiences provide enough time to address identified community needs and achieve learning outcomes.



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3/14 =

THE PROJECT-BASED LEARNING CONTINUUM

STAGE ONE

Teacher designs project
Project is a supplement to the curriculum

- a lesson
- one part of whole

Teacher predetermines product, outcome, and assessment
Single-disciplined
Real-world impact is incidental
All project work fits within class period
Student creativity involved, but little student choice allowed
Teacher acts as director of instruction

STAGE TWO

Teacher designs project
Project is integrated into the curriculum

- a unit
- larger part of whole

Students are given choices regarding process and product within the parameters set by the teacher
May cross disciplines
Some resources are found outside the classroom
~~Real-world impact built in~~
Teacher acts as director of activities

STAGE THREE

Teacher designs the essential question, focus, and goals
Teacher aligns project(s) with the standards
Project spans the length of the class (quarter, trimester, semester)

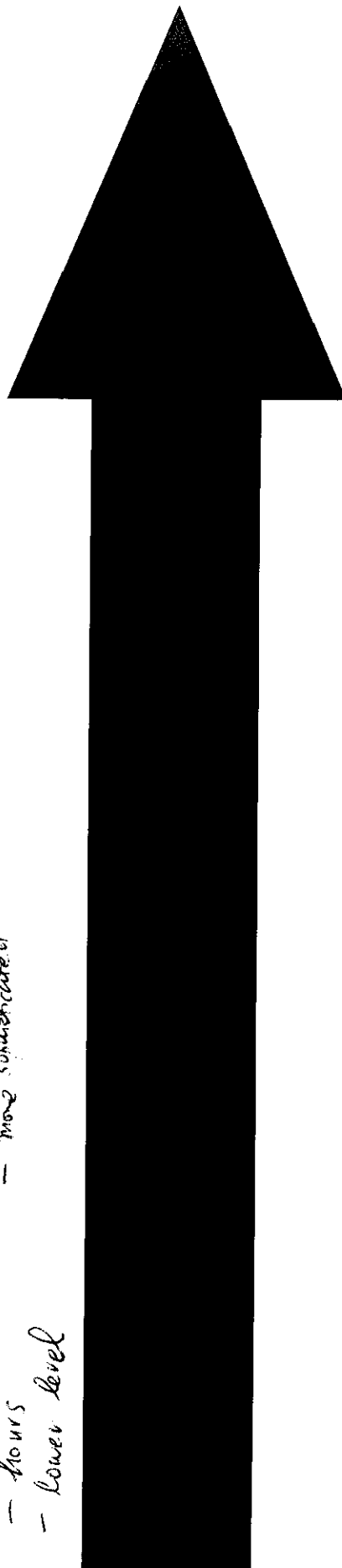
- is basis of the curriculum
- is the whole of the curriculum

Crosses multiple disciplines and, most likely, includes multiple planners (teachers) from different disciplines
Students design projects
~~Definite real-world impact~~
Work is constructivist
Authentic assessment using multiple assessment targets
A large portion of project work may take place out of the building
Work is complex
Teacher acts as facilitator

STAGE FOUR

Teacher (whole staff) designs infrastructure (project proposals, time logs, journal reviews, etc.)
Project is the basis of the whole-school program
Students design projects
Students design essential question, focus, and goals
Students align projects with standards
Real-world impact is an inherent component
Work is constructivist
Authentic assessment with students choosing assessment target
Much work takes place out of the building
Not discipline-based
Work is rigorous
Work is complex
Teacher acts as facilitator and advisor

短期 vs. 长期
- hours - more sophisticated
- lower level



附件三

2. Link to Curriculum:

Service-learning is intentionally used as an instructional strategy to meet learning goals and/or content standards.

Level 1 <i>The project exhibits practices and characteristics commonly found in service-learning.</i>	Level 2 <i>The project has taken some steps beyond the basics, integrating elements that achieve a higher degree of effectiveness.</i>	Level 3 <i>The project has begun to formalize its practices and processes to maximize the service-learning experience.</i>	Level 4 <i>The project intentionally incorporates practices and processes that result in youth-centered service-learning programming.</i>
<ul style="list-style-type: none"> The project has been developed independently from other formal learning experiences in which youth are engaged (e.g., academic or civic classroom curriculum). 	<ul style="list-style-type: none"> The project has established learning goals for youth that are specific to the service-learning program rather than tied to the classroom curriculum. The school is generally supportive of the program, but the does not intentionally coordinate curriculum and academic learning goals with the program. 	<ul style="list-style-type: none"> The project's learning goals are somewhat consistent with other academic content and program curriculum used in the school. Youth are aware of learning goals and how they will be achieved. Reflection activities help youth understand the relationship between their service activities and achievement of learning goals. Specific skills have been identified as beneficial to achieving learning goals. The project is carefully planned so that youth have hands-on experiences developing and using these skills. 	<ul style="list-style-type: none"> Project goals are intricately connected to broader school goals — supporting academic and program curriculum. Learning goals are clearly articulated to youth and reinforced throughout the project through multiple activities (e.g., visual media, reflection exercises, instructions). The project takes full advantage of reflection activities, adult feedback, and hands-on experiences to help youth transfer knowledge and skills between the project and the classroom. Service-learning is formally recognized in school board policies. Students participation in service-learning is recognized in student records.

PBL and Common Core — and Next Generation Science Standards

(Excerpted from the book *PBL for 21st Century Success: Teaching Critical Thinking, Collaboration, Communication, and Creativity*, published by the Buck Institute for Education, 2013)



With the Common Core State Standards adopted by all but a handful of states, efforts are underway across the country to help students meet the higher bar that the new standards set. The overarching goal of the new standards is to better prepare students for college and careers. PBL, with its emphasis on both significant content and 21st century competencies, addresses these new standards in several important ways.

David Ross, director of professional development for BIE, offers this pithy analysis about the alignment of PBL and the Common Core:

Everyone knows that content is king and Common Core wears the crown. Significant content is one of our eight Essential Elements of PBL. Make an easy connection: Significant Content = Common Core. Now let's use a shorter word. When designing a rigorous, relevant, and engaging project, Common Core is the "what." But what about the "how?" In our minds the answer is obvious: PBL is the solution for Common Core implementation. PBL is the "how."

Of course, we realize that PBL is not the only way to help students master these new standards. As states move toward implementation of the Common Core, however, more and more schools and districts are focusing on PBL as their go-to instructional strategy to prepare students for deeper thinking. Next-generation assessments aligned to the new standards (still in development at this writing) are expected to emphasize application of knowledge rather than recall of facts. Here, too, we find common ground with PBL, in which students demonstrate and share

what they know or can do through performance assessments. For PBL veterans, student demonstrations of learning are not new at all. They're an essential element of every project.

Common Core Standards for English Language Arts include tasks that are very familiar to people who know PBL:

"Conduct short as well as more sustained research projects based on focused questions"

"Prepare for and participate effectively in a range of conversations and collaborations with diverse partners"

"Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others"

"Conduct short research projects to answer a question (including a self-generated question)"

Common Core Standards of Mathematical Practice also echo PBL best practices. The math standards set expectations for students to do real-world problem solving, use mathematical modeling, apply statistical analysis, and communicate their understanding. "Mathematically proficient students can apply the mathematics they know

PBL addresses the new
Common Core State Standards
in several important ways.

to solve problems arising in everyday life, society, and the workplace,” according to the Standards of Mathematical Practice. Such applications naturally have a place within high-quality projects that ask students to use mathematics concepts and procedures in authentic contexts.

Next Generation Science Standards

The new national standards proposed for K-12 science shift the focus of instruction from simply acquiring content knowledge to the practice of science skills. Many of the draft Next Generation Science Standards (NGSS) align with practices common to 21st century Project Based Learning. For example, look at what students are supposed to learn how to do in the “Science and Engineering Practices” section:

1. Asking questions (for science) and defining problems (for engineering)
2. Developing and using models
3. Planning and carrying out investigations
4. Analyzing and interpreting data
5. Using mathematics and computational thinking
6. Constructing explanations (for science) and designing solutions (for engineering)
7. Engaging in argument from evidence
8. Obtaining, evaluating, and communicating information

Many of the Next Generation Science Standards align with practices common to 21st century Project Based Learning.

Some of the standards could actually be used as a stand-alone project idea, such as, “Design, evaluate, and refine a solution for reducing negative impact of human activities on the environment and ways to sustain biodiversity and maintain the planet’s natural capital” (HS-LS2-j). And as blogger and BIE National Faculty member Andrew Miller points out:

“With the new engineering focus of NGSS, consider design challenge PBL projects, a key component of science, technology, engineering, and mathematics (STEM) education.”

Even when the standards do not have an explicit project-based tone, there is a focus on the key competencies needed for PBL: inquiry, communication, and critical thinking. Consider what students are asked to demonstrate in order to meet the “College and Career Readiness” standards: “applying a blend of science and engineering practices... to approach problems not previously encountered by the student” and “self-directed planning, monitoring, and evaluation.” Sounds like what happens in PBL!

Step 7: Evaluate the Experience, and Step 8: Demonstrate New Understanding

附件五



New Tools for Demonstrating New Understanding

Student Assessment

The Service-Learning Cycle

As service-learning participants approach the last stages of the service-learning cycle — evaluating the experience and demonstrating new understanding — social media brings new opportunities for both. Students can share their findings easily and internationally through blogs, wikis, and tweets, and thanks to educator Karen Frank, ready-made rubrics are available online. Below is a sample of the specificity she brings to these assessment tools.

Originals at: <http://ny.lc/GOKB9c>

A Rubric for Evaluating Blogs

Criteria	Unsatisfactory – 0%	Limited – 80%	Proficient – 90%	Exemplary – 100%	Rating
Content and Creativity Weight for this criterion: 40% of total score	Postings show no evidence of insight, understanding or reflective thought about the topic. Postings present no specific viewpoint and no supporting examples or links to websites or documents are provided, or the links selected are of poor quality and do not add any value to the information presented. Postings do not stimulate dialogue and commentary and do not connect with the audience.	Postings provide minimal insight, understanding and reflective thought about the topic. Postings present a specific viewpoint but lack supporting examples or links to websites or documents, but not all links enhance the information presented. Postings are brief and unimaginative, and reflect minimal effort to connect with the audience.	Postings provide moderate insight, understanding and reflective thought about the topic. Postings present a specific viewpoint that is substantiated by supporting examples and links to websites or documents, but not all links enhance the information presented. Postings are generally well written with some attempts made to stimulate dialogue and commentary.	Postings provide comprehensive insight , understanding, and reflective thought about the topic by: <ul style="list-style-type: none"> • building a focused argument around a specific issue or • asking a new related question or • making an oppositional statement supported by personal experience or related research. Postings present a focused and cohesive viewpoint that is substantiated by effective supporting examples or links to relevant, up-to-date websites or documents that enhance the information presented. Postings are creatively and fluently written to stimulate dialogue and commentary.	

(CONTINUED)



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teacher | tools

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A Rubric for Evaluating Blogs CONTINUED

Criteria	Unsatisfactory – 0%	Limited – 80%	Proficient – 90%	Exemplary – 100%	Rating
Voice Weight for this criterion: 20% of total score	Postings do not reflect an awareness of the audience and it is difficult to identify the author's voice. Postings do not reflect the author's personality and word choice does not bring the topic to life.	Postings are written in a style that does not fully consider the audience, and the author's voice is difficult to identify. Postings reflect almost no personality and little attempt is made to use effective word choices to bring the topic to life.	Postings are written in a style that is generally appropriate for the intended audience and an attempt is made to use a consistent voice. Postings reflect a bit of the author's personality through word choices that attempt to bring the topic to life.	Postings are written in a style that is appealing and appropriate for the intended audience and a consistent voice is evident throughout. Postings reflect the author's unique personality through expressive and carefully selected word choices that bring the topic to life.	
Text Layout, Use of Graphics and Multimedia Weight for this criterion: 20% of total score	Does not insert any graphics, or uses only low-quality graphics and multimedia, which do not enhance the content. Does not acknowledge any image or multimedia sources, either with a caption or an annotation.	Selects and inserts many low-quality graphics and multimedia which do not enhance the content. Acknowledges only a few multimedia and image sources and uses incomplete captions or annotations.	Selects and inserts graphics and multimedia that are mostly high quality and enhance and clarify the content. Acknowledges most image and multimedia sources with captions or annotations.	Selects and inserts high quality graphics and multimedia when appropriate to enhance the content's visual appeal and increase readability. Acknowledges all image and multimedia sources with captions or annotations .	
Timeliness and Tags Weight for this criterion: 10% of total score	Does not update blog within the required time frame. Does not categorize and tag the topic appropriately.	Updates blog when reminded; posts are often missing a date stamp. The post is not categorized and tagged appropriately.	Updates blog when required; most posts are date-stamped with the most current posting listed at the top. Post is categorized and tagged.	Updates blog as often or more often than required; all posts are date-stamped and the most recent posts are placed at the top of the page. Post is categorized and topics are tagged appropriately.	
Citations Weight for this criterion: 5% of total score	No images, media or text created by others display appropriate copyright permissions and do not include accurate, properly formatted citations.	Some of the images, media or text created by others does not display appropriate copyright permissions and does not include accurate, properly formatted citations.	Most images, media or text created by others display appropriate copyright permissions and accurate, properly formatted citations.	All images, media and text created by others display appropriate copyright permissions and accurate citations .	
Quality of Writing and Proof-reading Weight for this criterion: 5% of total score	Written responses contain numerous grammatical, spelling or punctuation errors. The style of writing does not facilitate effective communication.	Written responses include some grammatical, spelling or punctuation errors that distract the reader.	Written responses are largely free of grammatical, spelling or punctuation errors. The style of writing generally facilitates communication.	Written responses are free of grammatical, spelling or punctuation errors. The style of writing facilitates communication .	

TOTAL

Used with permission from Karen Franker, University of Wisconsin-Stout.

Karen Franker is an adjunct instructor at the University of Wisconsin-Stout and editor of the Technology Tips e-newsletter. She is the Director of Online Learning at Edgewood College in Madison, Wisc. For more than 25 years she was a K-12 library media specialist and instructional technology specialist in Iowa City, Iowa. She has a master's degree in Library Science from the University of Iowa.

附件五

Progress Monitoring: Assessment Rubric

Criteria and qualities	Beginning	Developing	Accomplished	Expanding	Value
Initiative/ Productivity	Student shows little or no attempt in meeting his/her proposal even when prompted.	Student almost meets his/her proposal yet shows effort in his/her attempt.	Student meets the expectation of his/her proposal in a timely matter.	Student willingly accepts additional responsibilities and takes his/her original commitment beyond expectations finishing before deadline.	Up to X points.
Social Interaction	Student makes little or no effort to interact with service recipients and his/her peers.	Student interacts with his/her peers but not with service recipients.	Student makes a good effort in getting to know the service recipients and his/her peers.	Student makes a sincere effort to create a relationship with service recipients and his/her peers.	Up to X points.
Teamwork	Students show little or no effort to contribute to the group project and goals.	Student makes an effort to contribute only when prompted and shows minimal flexibility to compromise with the group's ideas.	Student contributes to the group goals and is flexible to compromise with the group's ideas.	Student offers several ideas to project, is receptive to compromise with groups' ideas and goes above expectations to meet the groups goals.	Up to X points.
Preparation	Student meets less than 50% of his/her objective and fails to achieve them in the agreed time frame.	Student makes an effort to achieve objectives and meets less than 50% of them in a reasonable time frame.	Student pursues objectives of the project and meets	Student establishes clear objectives and strategies and achieves strategies to meet objectives in a timely manner.	Up to X points.

(Adapted, with permission, from Spring Valley High School, Columbia, S.C., 2001)

All Lift materials are based in the K-12 Service-Learning Standards for Quality Practice, available at www.nylc.org/standards.

Lift Raising the Bar for
Service-Learning Practice

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附件五

Progress Monitoring: Documenting Service

Documenting the who, what, when, where, and why during a service-learning activity provides valuable information both for the project underway and future projects. By recording what was done in a variety of ways, students have material to draw on for reports, news articles, community impact statements, and more.

Writing

- Ask students to keep a journal or learning log, writing about each time they participate in the service activity. These logs can be an invaluable source of documentation of the time invested, daily activities, and records of what worked well and what needed better planning or adjustments.
- Ask community partners to keep a log of their activities as well that they will share with students, recording their own observations.

Data Collection

- Keep track of data relevant to the service-learning project. For example, how many emergency kits were created? How many flyers distributed? How many meals prepared? How much money was spent or saved?
- If appropriate, ask service recipients and community partners to fill out an evaluation form and ask students to compile the results. This allows them to see how their perceptions fit with the other people involved in the project.

Multimedia Recording

- Taking photographs to document what students have contributed or accomplished is a powerful way of remembering and sharing what happened. Photographing people involved, special events, products created, service sites, and more can help students tell the story.
- Video, too, can bring service activities to life and become an important means of sharing what happened with others and extending the learning.
- If your project involves sensitive subjects or privacy considerations, make sure students are aware of issues and limitations involving recording names, images, and other information before they begin their service activities.

Interviewing

- Interview partners during the service-learning project and recording their observations to ensure their perspectives are recorded and available for later analysis.

Drawing

- Sketches, charts, and diagrams can also assist in describing service-learning activities.

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Progress Monitoring: Negotiating Project Plans with Students

附件六

Before beginning a service-learning project, make sure that the project connects with the learning goals that students need to meet. Work with individual students or small groups to refine the service-learning project idea that students have developed from the need they identified.

The following questions will guide students in thinking more deeply about service-learning and connecting their service to academics. While students should try to answer these questions before conferencing with you on them, many students will need to talk through the questions with their classmates and with you before they can adequately answer them.

The conference will help you negotiate how the project plan will address needs in the community while meeting learning goals and academic benchmarks that you've identified. It also provides an opportunity for you and your students to think about other learning goals that their project might achieve.

Keep in mind, however, that you may need to adjust these plans as the project planning gets further developed. Community partners and service recipients may offer input on the project design that will affect your assessment plans.

What need did you decide to address?

How did you identify that issue?

What is the project you've selected to address that need?

What research have you done to refine that idea? What research do you still need to do?

What additional skills may you need to develop?

How feasible is your identified project? What are some potential barriers you might face? Who can help you overcome those barriers?

3/4/12

**Essential Capacities for the 21st Century
Schools of the Future Committee
NAIS Commission on Accreditation**

1. Analytical and Creative Thinking and Problem-Solving

- Identify, manage, and address complex problems
- Detect bias, and distinguish between reliable and unsound information
- Control information overload
- Formulate meaningful questions
- Analyze and create ideas and knowledge
- Use trial and error; devise and test solutions to problems
- Imagine alternatives
- Develop cross-disciplinary knowledge and perspectives
- Engage in sustained reasoning
- Synthesize and adapt
- Solve new problems that don't have rule-based solutions
- Use knowledge and creativity to solve complex "real-world" problems

2. Complex Communication—Oral and Written

- Understand and express ideas in two or more languages
- Communicate clearly to diverse audiences
- Listen attentively
- Speak effectively
- Write clearly and concisely—for a variety of audiences
- Explain information and compellingly persuade others of its implications

3. Leadership and Teamwork

- Initiate new ideas
- Lead through influence
- Build trust, resolve conflicts, and provide support for others
- Facilitate group discussions, forge consensus, and negotiate outcomes
- Teach, coach and counsel others
- Enlist help
- Collaborate sensitively and productively with people of varied backgrounds
- Coordinate tasks, manage groups, and delegate responsibilities
- Implement decisions and meet goals
- Share the credit

4. Digital and Quantitative Literacy

- Understand, use, and apply digital technologies
- Create digital knowledge and media
- Use multimedia resources to communicate ideas effectively in a variety of formats
- Master and use higher-level mathematics

- Understand traditional and emerging topics in math, science, and technology—environmental sciences, robotics, fractals, cellular automata, nanotechnology, and biotechnology

5. Global Perspective

- Develop open-mindedness, particularly regarding the values, traditions of others
- Study and understand non-western history, politics, religion, and culture
- Develop facility with one or more international languages
- Use technology to connect with people and events globally
- Develop social and intellectual skills to navigate effectively across cultures
- Use 21st century skills to understand and address global issues
- Learn from, and work collaboratively with, individuals from diverse cultures, religions, and lifestyles in a spirit of mutual respect and open dialogue
- Leverage social and cultural differences to create new ideas and achieve success

6. Adaptability, Initiative, and Risk-Taking

- Develop flexibility, agility, and adaptability
- Bring a sense of courage to unfamiliar situations
- Explore and experiment
- Work effectively in a climate of ambiguity and changing priorities
- View failure as an opportunity to learn, and acknowledge that innovation involves small successes and frequent mistakes
- Cultivate an independence of spirit to explore new roles, ideas, and strategies
- Develop entrepreneurial literacy
- Use creativity and innovation to produce things that are unique and that have value and meaning

7. Integrity and Ethical Decision-Making

- Sustain an empathetic and compassionate outlook
 - Foster integrity, honesty, fairness, and respect
 - Exhibit moral courage in confronting unjust situations
 - Act responsibly, with the interests and well-being of the larger community in mind
 - Develop a fundamental understanding of emerging ethical issues and dilemmas regarding new media and technologies
 - Make reasoned and ethical decisions in response to complex problems
-

附件 1

<http://www.moe.gov.sg/media/press/2010/03/moe-to-enhance-learning-of-21s.php>

Singapore Ministry of Education 21st Century Capacities

