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1. 內外有別的知识價值：文化如何影響數學知識的教育與傳播？以十七至十九世紀的朝鮮與日本為例/ 英家銘(Jia-Ming Ying)；黃俊瑋(Jyun-Wei Huang)

中摘：

本研究從文化的視角入手，探索古代東亞社會與數學的關聯。在介紹早期東亞國家的數學文化脈絡之後，本文比較十七至十九世紀朝鮮與日本的數學文化，即「東算」(Tongsan)與「和算」(Wasan)，並說明文化如何影響數學知識的教育與傳播。整體而言，朝鮮「東算」發展時，資源的限制使得知識的傳遞無法擴及兩班貴族與中人技術官僚階級之外，事大慕華思想使東亞古代的算學經典受到重視，而科舉考試的制度讓知識的內涵變得穩定不易失傳，以上這些原因讓東算具有強烈的官學性格，在算學內容發展上偏向應用，反映出國家「治理」的需要以及對算學外在價值的追求。相對來說，日本「和算」的發展，如同東亞地區其他文化的數學發展一樣，起初來自真實世界的需要，例如工程、測量與曆法等等，但江戶時代的鎖國環境、經濟發展，加上日本自古以來各種技能的「藝道化」，使得日本和算的發展與教育模式十分獨特，發展出「遺題承繼」、「算額奉納」與「流派競爭」等特色，也就是在真實世界的應用之外，和算家為了崇敬神佛與超越競爭對手而研究數學，且算學內容也包含跨越階級與性別的「趣味」元素，某種程度展現出對算學內在價值的追求。由此可見，即使是算學這樣技術性的學問，也會受到文化的影響，而有不同的表現方式。

Abstract:

This study explores the relationship between pre-modern East-Asian societies and mathematics from the perspective of culture. After introducing the context of early mathematics cultures in East Asia, this paper compares the mathematics cultures of Chosŏn Korea (1392-1910) and Edo Japan (1603-1867) in the 17th to 19th centuries, which are known as Tongsan and Wasan respectively. This paper then explains how cultures influence the education and transmission of mathematical knowledge. Generally speaking, when Tongsan was developing, the limited resources prevented the transmission of knowledge beyond the noble yangban class and the chungin class of technocrat. The admiration of Chinese culture maintained the canonical statuses of medieval Chinese mathematical treatises, and the system of state

examination stabilised the contents of mathematical knowledge without losses. All those features gave Tongsan a strong character of "official study", and directed its developments towards application, reflecting the need of "governance", and the pursuit for the external values of mathematics. In contrast, although Wasan started from real-world necessities such as engineering, measurement and calendar, the isolationist policy of Edo shogunate, the development of economy, and the trend of forming schools of thoughts for technical arts all contributed to making Wasan a unique culture with features of "bequeathed problems", "dedication of mathematical tablets", and "competition of schools". Hence, besides real-world applications, Wasan scholars practised mathematics to honour deities and surpass competitions. Culture was enriched by practitioners of different social statuses and genders, which demonstrated elements of "fun". All these reflect, to some extent, a pursuit for the internal values of mathematics. Therefore, even a technical study such as mathematics can be influenced by cultures and manifests itself in very different manners.

2. 教師哲學(P4T)的意涵與實踐之研究/ 王清思(Ching-Sze Wang) ; 葉譯聯(Yi-Lien Yeh)

中摘：

本文的教師哲學 (Philosophy for Teachers, P4T) 指的是教師專業成長模式，旨在以哲學的探究團體 (community of inquiry) 之運作，促使成員共同反思日常教學的問題與困惑，藉由心情故事分享、問題提問、問題票選、共同對話、探究及綜合反思之歷程，加深教師的自我認識並促成身心安好。本文分成兩大部分：第一，探討 P4T 的由來，以及與 P4C (兒童哲學) 的關聯；接著論述 P4T 的學理依據和國外實證研究成果。第二，探討本研究發展的在地化 P4T 實踐模式，包含五步驟實施流程與設計理念，實際例證之說明，以及參與教師對 P4T 的看法。文末總結 P4T 的重要性以及對教師專業成長的潛在貢獻。

Abstract:

“Philosophy for Teachers” (P4T) refers to a model of teachers' professional development which aims to engage teachers in a philosophical community of inquiry, so that teachers could reflect upon concrete problems and perplexities arising from daily teaching. The purpose is to deepen teachers' self-understanding and enhance their wellbeing through the process of story sharing, questioning, voting, communal dialogue and inquiry, and reflection. The first part of this paper looks at the background of P4T, its connection to Philosophy for Children (P4C), and relevant theories about teacher education and empirical research results. The second part of this paper introduces the practice of a localized model of P4T, including its five-step procedure, explanations of the functions of each step, examples drawn from practice, and teacher participants' perspectives towards P4T. Finally, this paper concludes by reassuring the significance and contribution of P4T to teacher professional development.

3. 探討 STEAM 教育與杜威美學之關聯 / 何奕慧 (Yi-Hui Ho)

中摘：

本研究以 STEAM 教育與杜威美學做為探究的兩大範圍，透過詮釋方法與文件分析法來探尋彼此的關聯性。STEAM 教育是當下重要的教育政策之一，受到重視有其時代的需求性，而 STEAM 教育對於未來世代與教育的影響力也不容小覷，值得探究。STEAM 教育乃是衍生自 STEM 教育；STEAM 教育具有「回應生活與解決問題、動手操作與創意設計」兩大重要內涵。而立基於有機體與環境互動論述的杜威哲思，以經驗論為本、思維術為用、圓滿於美學觀，連續的系統哲思建構出獨特的杜威美學。探討 STEAM 教育與杜威美學之關聯，本文發現：一、STEAM 教育的內涵與杜威美學的內涵脈絡之間，具有強度的關聯性；二、杜威美學對於 STEAM 教育具有指引與參照的意義與功能。杜威美學是杜威哲思之集大成，可以成為支撐 STEAM 教育發展的哲學基礎，引導 STEAM 教育的未來發展。

Abstract:

This study focuses on STEAM education and Dewey's aesthetics to identify their relationship through hermeneutics and documentary research. STEAM education is one of the important policies of current education, as it fits the needs of the time and will influence the future of education. On the other hand, Dewey's philosophy is based on the theory derived from the interaction between organisms and their environments. Dewey's unique aesthetics is continuously and systematically constructed by experience and by making use of how we think. Upon investigation of STEAM education and Dewey's aesthetics, there are two main findings in this article. First, there is a strong connection between STEAM education and Dewey's aesthetics. Second, Dewey's aesthetics can support the philosophical foundation for the development of STEAM education. Dewey's aesthetics is the essence of Dewey's philosophy, and it has significant contributions to guiding STEAM education.

4. Henry Giroux 再現的批判教學論在媒體素養教育上的啟示 / 林秋美 (Chiou-Mei Lin)

中摘：

學生深受媒體影響，且十二年國民基本教育的核心素養之一就是「科技資訊與媒體素養」，所以媒體素養教育有其重要性及急迫性。本文運用詮釋學研究方法，以說明媒體素養教育的意義與內容，並分析 Giroux 再現的批判教學論之內涵。再現的批判教學論主張教育者教導學生識別各種再現，了解這些再現如何運作，並質問這些再現由誰建構出的，為誰的利益服務，以及檢視這些將再現合法化的機構，並進一步改寫和超越再現。本文最後闡釋 Giroux 再現的批判教學論對媒體素養教育之啟示，主張教師可運用學生日常生活接觸的媒體影音及資訊，讓學生去覺察這些不當的再現；提供工具讓學生分析並批判族群、性別、階級等再現，並質問這些媒體機構的商業意圖；引導學生從被動接受變成具備媒體素養的主動公民。

Abstract:

Students nowadays are deeply influenced by the media, thus media literacy became an essential component of the 12-Year Basic Education. This article, by means of hermeneutic approach, tries to achieve the following three aims. The first aim is to explain media literacy education in details. The second is to analyze Giroux's critical pedagogy of representation, which advocates the following: educators should teach students to identify the form and content of representations; to understand how they work; to question who structures those representations; to question whose interests are being served by the representations; to examine the institutions that legitimate the representations; to rewrite and move beyond those representations. The third aim of this article is to illuminate several implications of media literacy education from Giroux's critical pedagogy of representation. Educators can utilize the images, sounds and information within media that students are exposed to in their daily life, and raise students' awareness of those representations; provide tools to analyze and critique such representations of ethnic, gender and class; and interrogate the commercial intention of those media companies. Then, students could transform from passive receivers to active citizens with media literacy.