Cross-Institutional Credit Transfer Information System

Credit transfer information systems in higher education are not well studied. This entry demonstrates the prototype development of a cross-institutional credit transfer information system (CICIS) for community college transfer (i.e., vertical transfer) students in an Asian educational context. It exhibits credit transfer guidelines and past credit transfer records to enhance the transparency and sustainability of credit transfer information and to facilitate the transfer process of prospective community college transfer students. It also ensures the sustainability of credit transfer information and its application. The four-phase life cycle of the prototyping model was adopted to guide the study.

1. Introduction

When progressing from community college education to baccalaureate studies, students have to face transitional needs, including going through articulation [1], which is the process of formally defining how course credits and/or programmes earned at a student's previous institution (e.g., a community college) can be applied towards credits and/or the degree at the receiving institution [2]. It has been suggested that institutions should actively develop and promote policies and practices to cater to transfer students' needs relating to credit transfer [3][4][5]. The foremost impact of effective articulation for transfer students is to move from one programme to another without repeating learning (i.e., taking similar courses) [6]; this is attainable through effective credit transfer practices [7]. When more of their pre-transfer credits are accepted by universities, their study loads can be reduced [8][9]. The resulting higher likelihood of degree attainment is the aspiration of many community college and transfer students [10]. In turn, given the increased accountability pressures on universities, this degree attainment rate serves not only as an important student outcome but also a pivotal institutional performance measure [11][12]. Advancing from organisational actions to national effects, effective credit transfer contributes to the efficient use of an institution's share of resources, fostering the atmosphere of higher education [13].

To improve and sustain the strategies and practices relating to credit transfer, technology can play a ground-breaking role [14][15], especially in this information age when the internet serves as the foremost source of information in the credit transfer process [16][17]. Higher education institutions have been collecting huge volumes of student and learning-related data from self-reports and student information systems for facilitating both academic and administrative processes [18]. From the students' perspective, they typically carry out online searches of detailed information that help them to apply for credit transfer, such as lists of eligible courses [19]. Clear and readily available information is crucial for facilitating the credit transfer process and improving the overall transfer experience [16][19]. In fact, the information can also help community college students (i.e., prospective transfer students) to make informed decisions about opportunities for transferring to university [20]. Secondary school students also need this information if they are considering these "non-linear" post-secondary pathways to baccalaureate studies [21]. Nonetheless, the accuracy, currency, and presentation of transfer-related information from institutional websites are not always well received [16][22][23][24]. For example, it is typical that discontinued programmes are still displayed on websites of universities and community colleges [22]. Students have also complained about the large amounts of time needed to rummage through institution-level and department-level web pages in order to locate relevant information such as articulation agreements and credit transfer policies [25][26].

It is recommended that, to sustain the process and provide accurate information for making decisions about course enrolment and credit transfer applications, community colleges and universities co-establish online locations as deposits of transfer-specific information [3][27][28]. These online systems can be developed domestically by institutions, vendor-supplied products, or a mixture of both, functioning as an online catalogue of credit transfer related information [13][14]. As detailed in the next section, a few online platforms and information systems to facilitate credit transfer have been established in Canada, Europe, and the US over the past three decades. However, the process of the development of these systems has not been published. The literature also reflects the inadequacies of previous studies in this area in the

past decade. Nonetheless, given that community college transfer also prevails in Asian countries and regions (e.g., Malaysia, Mainland China, and Hong Kong) [29][30][31][32][33][34]), there is a lack of research on credit transfer information systems, particularly in Asian educational contexts. This study attempted to fill the knowledge and research gaps by describing our work in designing and developing the prototype of a credit transfer information system in Hong Kong using the four-phase life cycle prototyping model, and reporting the issues and challenges encountered throughout this process. It is our hope that, by expanding research on credit transfer information systems through a detailed account of system development and extending the literature from Western to Asian education contexts, this study not only improves the sustainability of developing credit transfer information systems as an essential tool to facilitate higher education, but also draws the attention of various stakeholders of higher education to the needs, benefits, issues, and possible solutions associated with the development process.

2. System Design and Prototype Development

The system design and prototype development were guided by the four-phase life cycle of the prototyping model [35][36], which is deemed suitable for developers without a high level of technical expertise [37]. In the first phase of this model, an assessment of the main stakeholders' needs was conducted to inform the design of the system. In the second phase, a prototype of the system was built based on these design decisions. In the third phase, the prototype was evaluated by experts and lay users to elicit comments and suggestions for refinements and revisions. The fourth and final phase marked the engineering and release of the product (i.e., the cross-institution credit transfer information system (CICIS) in our case). In this paper, we report the first three phases of this project.

2.1. Phase I: Users' Needs Assessment and Pre-Prototyping Groundwork

2.1.1. Needs Assessment

Government Policies on Sending and Receiving Institutions

According to a report published by the University Grants Committee in 2010 [4], following an increase in the number of sub-degree programmes (i.e., associate degree and higher diploma) and hence of vertical transfer students in Hong Kong, a robust system should be adopted to make clear the pathways for student progression in post-secondary education. In the Code of Good Practices on Governance and Quality Assurance for self-financing post-secondary institutions (e.g., community colleges), it is also recommended that students should be provided with clear information for their application and admission to degree programmes, including but not limited to credit policies and articulation pathways [38]. In July 2014, the EDB announced the set-up of policies, principles, and operational guidelines for CAT in post-secondary education [5]. Similarly, there have been scholarly recommendations about the development of a CAT system for tertiary institutions in Hong Kong [39].

Recall of Experience from Current Transfer Students

The availability of and access to credit transfer information are pre-requisites for transfer students' pre-transfer (e.g., choice of degree programmes) and post-transfer (e.g., workload) decision making [40][41]. In-depth focus group interviews with transfer students were conducted from February 2018 to December 2019 to gauge their information needs in the four participating universities. In total, 296 transfer students, representing most disciplines and years of study, joined the interviews. Since the main target users of this system are community college students and transfer entrants to university, we asked the interviewees to recall their transfer experiences. They recounted several challenges in their experiences of acquiring information related to articulation and credit transfer. They addressed the importance of having more information to enable them to make better study plans at both the pre-transfer and post-transfer stages. However, according to the students, there was a paucity of accessible information and guidelines relating to articulation and credit transfer available from an official, centralised channel.

First, the students reported difficulties in obtaining information about the pre-transfer (e.g., articulation pathways, study patterns, and credit transfer arrangements) and post-transfer stages (e.g., graduation requirement) through formal channels such as institutional websites and instructors, where the latter were not well informed of credit/course transferability. Alternative, informal sources of this information were their peers, seniors, and social media, in spite of the limited credibility of such informal channels. As a last resort, the students said they had approached individual departments in universities to obtain guidelines and verify information about graduation requirements in relation to credit transfer. It was, nonetheless, a time-consuming process. Even with the needed information, they noted that they were overloaded and confused with the massive amount of both relevant and irrelevant information, and the transferability of some courses still remained uncertain.

Second, the transfer students who had looked for credit transfer information suggested that the transferability of credits between sub-degree and degree programmes and requirements regarding course grades should be made transparent to them during their sub-degree studies. This information could have facilitated study planning in that they could strategically take courses that were transferable to universities during sub-degree studies and hence reduce their study loads after articulating to degree studies. Since, as mentioned, this information was limited, the students relied on the alternative sources of information, which might have been outdated or even inaccurate. Particularly for credit transfer practice, unofficial information (e.g., requirements and minimum GPA) affected their decision making significantly. They reported that it was not uncommon for transfer students to mistakenly register for courses based on inaccurate information. The credibility of such information was a concern.

At a later stage of the project, when being introduced to the idea of a credit transfer and articulation information system, the students expressed welcoming attitudes and perceived this as a platform for increasing the visibility and accessibility of verified, up-to-date, and consistent information regarding articulation and credit transfer. In particular, they requested the availability of a list of courses that are transferrable between sub-degree and degree programmes in Hong Kong, and also a searching facility for matching their potential articulation-friendly universities and degree programmes with their current sub-degree programmes. They also suggested having instructions about applying for credit transfer in various universities as well as reminders of important dates and deadlines. Compared to their existing sources of credit transfer information, this proposed system was regarded as a trustworthy repository that would save their time in obtaining and organising the information.

2.1.2. Pre-Prototyping Groundwork

The groundwork started back in August 2017. Our team took advantage of this gap and initiated the idea of a pioneering, local, cross-institutional credit transfer information system (CICIS) in the project team's first internal meeting. The ONCAT database and later the ASSIST, as well as BCCAT, were taken as a reference to develop the CICIS. After studying their features and elements applicable to our design, a project assistant prepared a hand-drawn draft layout of the system (i.e., the wireframe) in February 2018 so that discussion could be supported by the visualised ideas. **Figure 1** shows part of the initial wireframe that illustrated the searching interface. In addition to continuous major input of comments and suggestions from project team members, various external parties were invited to offer their opinions on the wireframe. During this design phase, a professor from another local university and another expert from overseas acted as the main external consultants. As the prospective content (i.e., credit transfer information) providers, academic staff, transfer students from six local universities, and community colleges were also involved in refining the wireframe design. Technical advice and support were given by the departmental Senior IT Officer and the central IT Services.
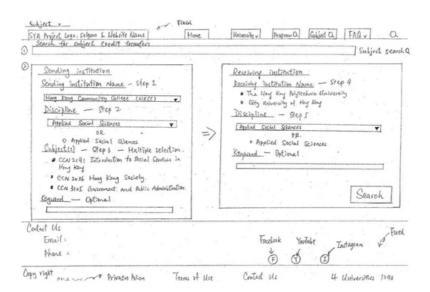

Figure 1. Searching interface in the initial wireframe of the system.

From September 2017 the project team started the on-going process of collecting institutional data including existing records of programme-to-programme articulation and credit transfer, from the four participating universities. Based on the users' information needs, a preliminary list of information fields was generated. The information related to the community college or sub-degree (i.e., sending) institution included *Name of Institution, Programme Title, Subject Code, Subject Title,* and *Minimum Grade Required for Credit Transfer,* while that related to the university (i.e., receiving institution) included *Year of Intake, Faculty, Department, Programme Title,* and *Subject Code*. It also included *Success*, which indicated whether the credit transfer application was approved or not.

Due to the inevitable inertia in the administration policies and practices influenced by institutional cultures [42], the project team encountered considerable obstacles throughout the credit transfer data collection. At the beginning, the data collection process started from sending a request to the programme leaders of individual departments asking for articulation information and credit transfer records. However, the response rate was rather low due to the reluctance of individual programmes and/or departments to disclose such information. Furthermore, a large amount of time was spent by administrative staff in looking up and retrieving the transfer-specific information from admission records that were infrequently used by the departments. For instance, in University A, since credit transfer applications are handled at the departmental level on a case-by-case basis, the project team could only obtain a total of 337 first-hand records of subject-to-subject articulation and credit transfer from the programme leaders of the 24 bachelor's degree programmes (i.e., 41% of all programmes) and administration staff in 12 academic departments (i.e., 45% of all departments), from late October 2019 to late January 2020. This bottom-up approach to data collection was thus not entirely effective.

The project team then switched to the top-down approach for collecting data from central bodies holding the student admission data. Obstacles were encountered here too due to the concerns of privacy, institutional data sharing, and even removal of relevant data. Following numerous negotiations, some provided subject-to-subject transfer data, while some provided programme-to-programme articulation data. For instance, in University B, as of June 2020, data were obtained from only one department. University C only provided aggregated data. University D could only provide programme-to-programme articulation information since transfer students had been pre-assigned to take a certain number of unit requirements for graduation. Besides the mode of transfer (subject-to-subject, programme-to-programme, or combination), challenges were also found in using different terminologies describing identical concepts (**Table 1**).

Table 1. Examples of the different terminology used in the four universities in Hong Kong for credit transfer practices.

Terminology	Description	University A	University B	University C	University D
Admission scheme	**Direct entry to year 3 of undergraduate programmes (usually 4-year), mainly for graduates of local Associate Degree/Higher Diploma**	**Senior-year admitted**	**Advance standing II**	**Senior-year admitted**	**Senior-year admitted**
Measurement of academic load	**A measurement to quantify the amount of learning in a course or programme of study**	**Credit**	**Credit unit**	**Unit**	**Unit**
Unit of study	**A minimal unit of study**	**Subject**	**Course**	**Course**	**Course**
Curriculum structure (category)	**The general education components that all undergraduate students are required to complete as a graduation requirement stipulated by the universities to enhance breadth of knowledge and skills**	**General university requirement**	**Gateway education**	**General education**	**University core requirement**

After gathering a certain amount of data from the four participating universities, the project team focused on the intricate and time-consuming tasks of organising and cleaning the data from each university. There were either inaccuracies or inconsistencies in the collected data from the academic registries and those from departments. This was mainly attributable to the unstandardised format of data, such as inconsistent programme titles and course codes, and incomplete data submission. Furthermore, the sources of data also had to be taken into consideration. For instance, in University A, the subject-to-subject credit transfers were entered (e.g., name of institution, programme title, and course code) by the applicants (i.e., transfer students) into their credit transfer applications that eventually became the institutional records. Therefore, the collected data were cautiously managed.

2.2. Prototype Development

The development of the system prototype also began amid the hindered process of institutional data collection. The system was named the Cross-institutional Credit Transfer Information System (CICIS). The project team conducted a meeting in January 2018 with personnel from the central information technology support services at University A, in which the system wireframe, manpower, budgeting, contingency support, and legal matters were discussed. To stipulate the roles, responsibilities, and accountability of the four participating universities, an agreement was made in March 2018. It was also decided that the project team members at University A would be the coordinators of the system development work, and the website (i.e., online interface) for accessing the system would be hosted on its server.

Starting from July 2018, the technical development work of building the website was outsourced to a production company. To clarify the details about the wireframe, layout design, and content management, numerous face-to-face meetings, email exchanges, and phone conversations between the project team and the company were held. Before the prototype was ready, nine transfer students (i.e., target users) were involved in giving comments and suggestions about the wireframe prepared by the company in January 2019 (**Figure 2**). After several rounds of modifications and refinements, the company completed a functional version of the system prototype in May 2019. As detailed in **Table 2**, the project team proceeded to garner feedback through consultations with numerous major shareholders of higher education (e.g., government bodies and community colleges) and external reviewers. After further functional and security testing, the system prototype was fully functional in July 2019 (**Figure 3**) and was presented in conferences and symposia to solicit feedback continuously from external parties.
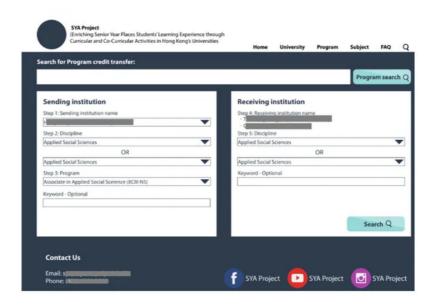

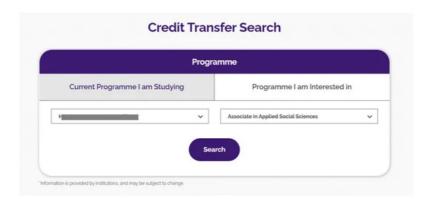**Figure 2.** Original search interface of the wireframe prepared by the company.

Figure 3. Final search interface of the functional prototype system.

Table 2. Summary of the key milestones of consultations.

Time	Key Milestones	Remarks/# of Stakeholders
30 January and 27 February 2019	**Incorporated target users' feedback to modify the wireframe**	**Nine transfer students (target users) were invited to give comments and suggestions on the draft of wireframe**
20–22 May 2019	**Solicited feedback from an external credit transfer expert in US**	
22 May 2019	**Solicited feedback from different stakeholders from the government and sub-degree institutions before, during, and after a workshop from an external credit transfer expert from US**	**A total of 34 participants from eight institutions/organisations joined the workshop, including both academic (e.g., Department Head, Programme Leader, Lecturer, etc.) and supporting/administrative staff (e.g., Head, Manager, Registrar, etc.)**

Time	Key Milestones	Remarks/# of Stakeholders
24 May 2019	**Delivered CICIS prototype presentation "Challenges in developing an online credit transfer information platform for potential senior year admitted students"**	[43]
21 August 2019	**Delivered CICIS development presentation "Prior learning: Recognition and visibility"**	[44]
2–14 February 2020	**Solicited feedback from external experts in ONCAT and ASSIST credit transfer information systems**	**Visited Canada and US about ONCAT and ASSIST information systems**
5–7 February 2020	**Delivered joint conference presentation with HKCAAVQ to share and seek feedback on CICIS from experts in NISTS**	[45]

As the system only contained records of articulation and credit transfer from a single institution (i.e., University A) at that time point, the CICIS was launched as a beta version on 25 July 2019. It was promoted to various departments in the participating universities holding the articulation and credit transfer information. We aimed for their buy-in and recognition of the usefulness of this system, so that they would be more likely to share their institutional data with the project team.

2.3. Unforeseen Circumstances and Expert Review

From August 2019 to June 2020, while tasks for institutional data collection from three of the participating universities (e.g., negotiation) were still in progress, there was social unrest in Hong Kong that interrupted the fall semester of 2019, followed by the outbreak of the COVID-19 pandemic that continued throughout 2020. These unexpected events that caused widespread disruption to academic and general life included campus closures and transport disruption which posed inevitable challenges not only to management and administration in universities (i.e., decision makers and executors of the sharing of institutional data) but also to the project team's planning and preparation of formal user evaluations. Nevertheless, in order to provide a useful and user-friendly searching system, the project team invested time and effort in conducting seven rounds of expert reviews, both during monthly meetings of the project team and via email exchanges within this period.

In addition to three project co-investigators, their three project assistants, and four research associates/assistants of the project team, 14 student ambassadors of the project, eight academic staff members, and five administration staff members were invited to give suggestions about the interface and search facilities of CICIS. They were considered experts due to their knowledge and experience in community college transfer, system usability, or both. Their feedback was concerned, for example, with the logo design, the content of the disclaimers, usefulness of links for navigation, and word choice.

A recurring comment was about the kinds of and the granularity of information presented in the system (e.g., credit requirements, transferrable coursework, etc.). This feedback gave rise to continuous refinements of the system prototype prepared by the company and/or the project personnel in cases of delayed responses and follow-up actions from the company. It is noteworthy that the most recent round of expert reviews was conducted in 2020 after the project team's visit to Canada and the US in a trip that aimed to gain insights from institutions outside Hong Kong.

References

1. Roksa, J. Building bridges for student success: Are higher education articulation policies effective? Teach. Coll. Rec. 2009, 111, 2444–2478.

2. Thompson, S. Collaboration for Student Success: A System for Providing Transfer Student Performance Information to Feeder Institutions; Southwest Texas State University: Texas, TX, USA, 2003.

3. Miller, A. Institutional practices that facilitate bachelor's degree completion for transfer students. New Dir. High. Educ. 2013, 2013, 39–50.

4. University Grants Committee. Aspirations for the Higher Education System in Hong Kong: Report of the University Grants Committee; University Grants Committee: Hong Kong, China, 2010; Volume 11.

5. Qualifications Framework. Policy, Principles and Operational Guidelines for Credit Accumulation and Transfer (CAT) under Qualifications Framework in Hong Kong; Education Bureau, The Government of the Hong Kong Special Administrative Region: Hong Kong, China, 2016.

6. Howieson, C.; Raffe, D. The paradox of Scotland: Limited credit transfer in a credit-based lifelong learning system. Oxf. Rev. Educ. 2013, 39, 366–384.

7. Lorenzo, G. Transfer and Articulation from Community Colleges to Four-Year Institutions: Hope on the Horizon; The Source on Community College Issues, Trends & Strategies, Lorenzo Associates, Inc: New York, NY, USA, 2011.

8. Ching, S.S.Y.; Tam, K.Y.; Zhang, L.W.; Ng, J.; Cheung, K. A Qualitative Exploration on the Challenges of Transfer Students in an Asian Educational Context. Int. J. Environ. Res. Public Health 2021, 18, 3238.

9. Chrystal, L.L.; Gansemer-Topf, A.; Laanan, F.S. Assessing students' transition from community college to a four-year institution. J. Assess. Inst. Eff. 2013, 3, 1–18.

10. de la Torre, D., Jr. Where There's a Web, There's a Way: Statewide Approaches to Promoting Community College Student Transfer. J. Coll. Admiss. 2007, 194, 6–11.

11. Deiaco, E.; Hughes, A.; McKelvey, M. Universities as strategic actors in the knowledge economy. Camb. J. Econ. 2012, 36, 525–541.

12. Wang, X. Baccalaureate attainment and college persistence of community college transfer students at four-year institutions. Res. High. Educ. 2009, 50, 570–588.

13. Rifkin, T. Improving Articulation Policy To Increase Transfer; Policy Paper; Education Commission of the States, Denver, CO. Center for Community College Policy: Denver, CO, USA, 2000.

14. Clemetsen, B.; Furbeck, L.; Moore, A. Understanding transfer and articulation. In The Handbook of Strategic Enrollment Management; Joessey-Bass A Wiley Brand: San Francisco, CA, USA, 2014; pp. 124–143.

15. Larsen, B.S. The European credit transfer system (ECTS): Introduction and practical experience at the Technical University of Denmark. Water Sci. Technol. 2000, 41, 61–66.

16. Nuñez, A.-M.; Yoshimi, J. A phenomenology of transfer: Students' experiences at a receiving institution. Innov. High. Educ. 2017, 42, 173–187.

17. Ooi, T.C.; Ho, H.W.L.; Amri, S. Education websites and their benefits to potential international students: A case study of higher education service providers in Malaysia. Curr. Issues Educ. 2010, 13, 1–36.

18. Salloum, S.A.; Al-Emran, M.; Monem, A.A.; Shaalan, K. Using text mining techniques for extracting information from research articles. In Intelligent Natural Language Processing: Trends and Applications; Springer: Berlin/Heidelberg, Germany, 2018; pp. 373–397.

19. Usher, A.; Jarvey, P. Student Experiences in Credit Transfer at Ontario Colleges; Colleges Ontario: Toronto, ON, Canada, 2012; Volume 16, p. 2015.

20. Wilson-Mah, R.; Thomlinson, E. Mind the gap: Chinese diploma student views of bridges and barriers to transferring into a Canadian university. High. Educ. Res. Dev. 2018, 37, 635–648.

21. Maier, R.; Robson, K. Exploring university-to-college transfer in Ontario: A qualitative study of non-linear post-secondary mobility. Can. J. High. Educ. Rev. Can. D'enseignement Supérieur 2020, 50, 82–94.

22. Ellis, M.M. Successful community college transfer students speak out. Community Coll. J. Res. Pract. 2013, 37, 73–84.

23. Paez, D.; Byrnes, J.; Blacker, J.; Jackson, A.; Dwyer, C. The Corporate Strategy Approach to Articulation and Credit Transfer; University of Southern Queensland: Queensland, Australia, 2011.

24. Schudde, L.; Bradley, D.; Absher, C. Ease of Access and Usefulness of Transfer Information on Community College Websites in Texas; Community College Research Center, Teachers College, Columbia University: New York, NY, USA, 2018.

25. Arnold, C.H. Transfer literacy: Assessing Informational Symmetries and Asymmetries. Ph.D. Dissertation, University of Toronto, Toronto, ON, Canada, 2014. Available online: https://guide.pccat.arucc.ca/uploads/pdf/french/2012-2_ChristineArnold-Transfer-literacy-assessing-informational-symmetries-and-asymmetrie1.pdf (accessed on 24 June 2021).

26. Sayed, B.T.; Al Mushikhi, K.M.; Dhanasekaran, B. Knowledge Based Information System to Manage Transfer of Credits in An Outcome Based Higher Educational Setting. Procedia Comput. Sci. 2019, 154, 26–32.

27. Arnold, C.H.; Woodhead, S. Transferability Expectations and Realities: Analysis of Incoming Centennial College Learner Expectations, Realities and Self-Adjusted Perceptions; Ontario Council on Articulation and Transfer: Toronto, ON, Canada, 2015.

28. Gerhardt, K.; Ackerman, M. Postsecondary Student Mobility from College to University: Student Expectations and Experience. Coll. Q. 2014, 17, n1.

29. Cheung, K.; Chan, E.S.; Ng, J.; Tsang, H.; Leong, H.-v. Comparison of workload and academic performances of transfer and native students in an Asian educational context. High. Educ. Res. Dev. 2020, 1–15.

30. Cheung, K.; Ng, J.; Tsang, H.; Pang, K.K.; Wan, C.; Moser, K. Factors Affecting Direct and Transfer Entrants' Active Coping and Satisfaction with the University. Int. J. Environ. Res. Public Health 2020, 17, 2803.

31. Cheung, K.; Yip, T.L.; Wan, C.J.; Tsang, H.; Zhang, L.W.; Parpala, A. Differences in study workload stress and its associated factors between transfer students and freshmen entrants in an Asian higher education context. PLoS ONE 2020, 15, e0233022.

32. Cheung, K.; Tam, K.Y.; Tsang, M.H.; Zhang, L.W.; Lit, S.W. Depression, anxiety and stress in different subgroups of first-year university students from 4-year cohort data. J. Affect. Disord. 2020, 274, 305–314.

33. Ching, S.S.Y.; Foung, D.; Zhang, L.W.; Guan, G.Y.; Cheung, K. Perceptions of the English Use of College Transfer Nursing Students in a Non-English Speaking City: A Qualitative Study. Int. J. Environ. Res. Public Health 2020, 17, 462.

34. Mok, K.H. Massification of higher education, graduate employment and social mobility in the Greater China region. Br. J. Sociol. Educ. 2016, 37, 51–71.

35. Rather, M.A.; Bhatnagar, M.V. A Comparative Study of Software Development Life Cycle Models. Int. J. Appl. Innov. Eng. Manag. (IJAIEM) 2015, 4, 23–29.

36. Shukla, A.K.; Saxena, A. Which Model is best for the Software Project? "A Comparative Analysis of Software Engineering Models". Int. J. Comput. Appl. 2013, 76, 18–22.

37. Jamwal, D.D. Analysis of software development models. IJCST 2010, 1, 1–4.

38. Committee on Self-financing Post-secondary Education. Code of Good Practices on Governance and Quality Assurance; Committee on Self-financing Post-secondary Education, The Government of the Hong Kong Special Administrative Region: Hong Kong, China, 2015.

39. Kwok, K.Y. Information and Guidance for Adults Returning to Higher Education in Hong Kong: A Case Study. EdD Thesis, University of Nottingham, Nottingham, UK, 2009. Available online: http://eprints.nottingham.ac.uk/10994/ (accessed on 24 June 2021).

40. Pollard, E.; Hadjivassiliou, K.; Swift, S.; Green, M. Credit Transfer in Higher Education: A Review of the Literature; Department for Education, UK: London, UK, 2017.

41. O'Keefe, L.M. Transfer Capital and Academic Planning: Facilitating Successful Two-to Four-Year Transfer in North Texas. Ph.D. Dissertation, University of North Texas, Denton, TX, USA, 2013. Available online: http://ezproxy.lb.polyu.edu.hk/login?url=https://www.proquest.com/dissertations-theses/transfer-capital-academic-planning-facilitating/docview/1649180803/se-2?accountid=16210 (accessed on 24 June 2021).

42. Miclea, M. Institutional-level reform and the Bologna Process: The experience of nine universities in South East Europe. High. Educ. Eur. 2003, 28, 259–272.

43. Cheung, K.; Bin, L.; Benz, P.; Chow, K.M.; Ng, H.-M.; Kwong, S.; Tsang, H.; LI, Y.N.; Law, B.; Leung, A. Challenges in Developing an Online Credit Transfer Information Platform for Potential Senior Year Admitted Students. In Proceedings of the Learning and EdUHK Festival 2019, Hong Kong, China, 24 May 2019.

44. Cheung, K.; Ng, H.-M. Prior Learning: Recognition and Visibility. In Proceedings of the Teaching and Learning Symposium 2019–Latest Updates on Teaching and Learning Trends, Hong Kong Baptist University, Hong Kong, China, 21 August 2019.

45. Cheung, K.; Lau, A.; Wong, R.; Ng, M.H.; Zhang, L.W.W.; Leung, D.; Liu, K.Y. Community transfer students in Asian higher education context. In Proceedings of the National Institute for the Study of Transfer Students (NISTS) 2020, Atlanta, GA, USA, 5–7 February 2020.