

Research Statement

Benjamin Gan Kok Siew
 School of Computing and Information Systems, Singapore Management University
 Tel: (65) 6828-0267; Email: benjamingan@smu.edu.sg
 22 (Day) 12 (Month) 2023(Year)

Background

- 27 years of teaching experience with 19 years in SMU and 8 years in NUS
- Conducted various teaching pedagogies in SMU.
 - 2005-2015 Foundation: Taught object-oriented (OO) programming courses using agile methodology. SMU interactive pedagogy adapted from seminar style teaching is not the typical mode of delivery for foundation courses: Java/C# programming, OO design and enterprise web solution courses. We injected experiential learning with problem-solving learning activities to these courses.
 - 2010-2023 Advance courses: Taught interaction design and prototyping, technopreneurship study mission, software product management, capstone project course, global software project management and python programming courses for undergraduates. We partnered with industry leaders, government boards, startups, and NGO to work on existing and future real-world problem, management, deployment, and testing of IT solutions.
 - 2018-2020: Academic director of the DHL-SMU Analytics lab, managing research projects in logistic data visualization system and optimizing the vehicle routing problem.

Research Areas

- My current interest is to create an experiential learning environment where students work on real projects thru learning activities in the following modules:
 - o Interaction Design and Prototyping^{8,10,14,16}
 - o Technopreneurship in study missions¹¹
 - o Capstone course project-based learning^{12,13,23,24}
 - o Global Software Project Management^{26,27}
 - o Object Oriented Design, Programming and Architecture^{7,8,28}
- The focus is on understanding the factors that influence learning such as
 - o Incorporating real world issues (sustainability^{1,2,5}) and using IT as solutions^{18,19,20,21}
 - o Learning activities^{10,16}, class participation^{3,5} and pedagogies^{6,8, 25}
 - o Technology enhanced learning^{4,5,9,22}, and blended learning¹⁰.
- Prior research areas included the following topics:
 - o Designing global competence learning outcome for short-term faculty led study missions¹¹.
 - o Data Analytics in Logistic/Supply Chain^{15,17}
 - o e-Business cases from Asia^{29,30}
- Current projects:
 - o Class participation system³

- Climate Change Education^{1,2,5}

Selected Publications and Outputs

1. Examining the Potential of Micro-Aerial Vehicles for Tree Inspections as Climate Change Education Tools by Thomas Menkhoff, Benjamin Gan and Foong Shaohui. International Conference on Computational Science and Computational Intelligence (CSCI, 2023).
2. Sustainability Projects with a Community Partner, a social norm nudging effort by Benjamin Kok Siew Gan, Thomas Menkhoff, and Eng Lieh Ouh. TALE 2023.
3. Class Participation, Using Technology to Enhance Efficiency and Fairness by Benjamin Kok Siew Gan and Eng Lieh Ouh. TALE 2023.
4. ChatGPT, Can You Generate Solutions for my Coding Exercises? An Evaluation on its Effectiveness in an undergraduate Java Programming Course by Eng Lieh Ouh, Benjamin Kok Siew Gan, Kyong Jin Shim, and Swavek Wlodkowski. ITiCSE 2023.
5. Engaging Students through Conversational Chatbots and Digital Content: A Climate Action Perspective. By Menkhoff, T., Gan, B. IHIET-AI 2023.
6. Are you cloud-certified? Preparing Computing Undergraduates for Cloud Certification with Experiential Learning by E. Ouh and B. Gan, ICSE-SEET 2023.
7. An Exploratory Study of Architectural Style and Effort Estimation for Multi-Tenant Microservices-Based Software as a Service (SaaS) by E. L. Ouh and B. Kok Siew Gan, ICISA-C 2023.
8. Designing Flipped Learning Activities for Beginner Programming Course by Benjamin Kok Siew Gan, and Eng Lieh Ouh. AMCIS 2022.
9. ITSS: Interactive Web-Based Authoring and Playback Integrated Environment for Programming Tutorials by Eng Lieh Ouh, Benjamin Kok Siew Gan, and David Lo. ICSE2022.
10. Effective Digital Learning Practices for IS Design Courses during COVID-19 by Eng Lieh Ouh, and Benjamin Kok Siew Gan. AMCIS 2021.
11. Enhancing Students' Global Competence through International Business Study Missions by Mark Chong, Benjamin Gan Kok Siew, and Thomas Menkhoff, Journal of International Education in Business, 11/2020.
12. Experience Report on the Use of Technology to Manage Capstone Course Projects by Benjamin Kok Siew Gan and Eng Lieh Ouh, Frontiers in Education 2020.
13. A Longitudinal Study of a Capstone Course by Gan, Benjamin Kok Siew; Ouh, Eng Lieh; and LEE, Yin Yin Fiona, AMCIS 2020.
14. How To and How Much? Teaching Ethics in An Interaction Design Course by Bimlesh Wadhwa; Ouh Eng Lieh and Benjamin Kok Siew Gan, CHI 2020 EduCHI Workshop 2020.
15. Vehicle Routing Problem for Multi-Product Cross-Docking by Aldy Gunawan, Audrey T. Widjaja, Benjamin Gan Kok Siew, Vincent F. Yu, Panca Jodiawan, IEOM 2020. (Best Track Paper Award - Logistic)
16. Designing Learning Activities for Experiential Learning in a Design Thinking Course by Benjamin Kok Siew Gan, Eng Lieh Ouh, TALE 2019.
17. EzLog: Data visualization for logistics by GUNAWAN, Aldy, GAN Benjamin, TAN, Jin An, VILLANUEVA, Sheena L.S.L, WEN, Timothy K.J. 14th International Congress on Logistics and SCM Systems ICLC 2019 (Best Paper award)
18. 'TweetBoard' - a case study of developing a micro-blogging platform for higher education by Joyce Hsu Shao Cheh, Kok Siew Benjamin Gan, Lee Jin, Sheryl Lim Shu Hui, Jeremy Lim Xie Yan, Thomas Menkhoff, Sherman Tan Si Xian, C. Jason Woodard, Yap Qiu Cheng, Int. J. Social Media and Interactive Learning Environments 2016.
19. ICT-TrAVel: Mobile Public Transport Companion for the Visually Impaired by CUI Linting, NGO Kenny, GAN Benjamin Kok Siew, Proceedings of the Undergraduate Conference in Information Systems, CMU, 2016. (Best Paper award)
20. Capstone course on facilitating Business Brainstorming in a Global Workplace by LIM Edison Jun Hao, GAN Benjamin Kok Siew, Proceedings of the Undergraduate Conference in Information Systems, CMU, 2016.
21. Incorporating Microblogging ('Tweeting') in Higher Education: Lessons Learnt in a Knowledge Management Course by Thomas MENKHOFF, Yue Wah CHAY, Magnus Lars BENGTTSSON, C. Jason WOODARD, and Benjamin GAN, Computers in Human Behaviour 2015.
22. Enhancing Students' Learning Process through Interactive Digital Media: New Opportunities for Collaborative Learning by GAN Benjamin, MENKHOFF Thomas, SMITH Richard R, Computers in Human Behaviour 2015.

23. Project Sourcing for Capstone Course Experience from an Undergraduate Program by GAN Kok Siew Benjamin; SHANKARARAMAN Venkataramanan, Society for Information Technology and Teacher Education (SITE 2015).
24. Evolving an Information Systems Capstone Course to Align with the Fast-Changing Singapore Marketplace by Shannon Christopher BOESCH and Kok Siew Benjamin GAN, Capstone Design Conference 2014.
25. Active learning approaches in information technology (IT) pedagogy by Kok Siew Benjamin GAN, K.D. JOSHI, Diane LENDING, Christina OUTLAY, Jeria QUESENBERRY and Randy WEINBERG, SIGMIS CPR 2014.
26. Getting to Global Yes! Designing a Distributed Student Collaboration by Selma Limam Mansar, Randy Weinberg, and Benjamin Kok Siew Gan. ICEIS 2011.
27. Global Project Management: Pedagogy for Distributed Teams by Kok Siew Benjamin GAN, Randy WEINBERG, and Selma MANSAR, Global Learn Asia Pacific 2010.
28. A Journey into the IT Jungle by Kok Siew Benjamin GAN, Yeow Leong LEE, and Lian Chee KOH, Pearson Prentice Hall Asia, 2nd Edition 2008, 1st Edition 2007.
29. Premier e-Business Cases from Asia by Jae Kyu LEE, Kok Siew Benjamin GAN, and Vijay SETHI, Pearson Prentice Hall, Singapore, 2006, ISBN: 981-06-7690-5.
30. Singapore's e-Payment venture into Asia: eNETS by Benjamin Gan Kok Siew, Chapter 15, Premier e-Business cases for Asia, Pearson Prentice Hall, First Edition, (2006).