

Summary

Tanya empowers leaders, educators and learners with data-informed insights. Being a data analyst, researcher, and teacher in the past 7 years, Tanya brings expertise in large-scale institutional analytics, as well as an in-depth understanding of teaching and learning processes at a granular level.

Professional Experience

Research Analyst, Institutional Research

Dec. 2018 to Current

Langara College

Vancouver, BC, Canada

- Develop interactive Tableau dashboards and reports to support senior management's strategic planning and decision-making
- Build efficient and reproducible analytics workflows using Tableau, R, Excel, and MS Access
- Manage daily, term-based and annual reports of student applications, enrollment, academic outcome, faculty workload for internal and external audience (e.g. [Langara at a Glance](#))
- Conduct complex analyses and modeling to inform recruitment and marketing strategies, budget allocation, course planning, and policy-making
- Deploy and analyze surveys related to comprehensive program reviews and college-wide initiatives
- Administer Tableau Online site by coordinating user management and analyzing site traffic patterns
- As a team, engage and cultivate a college-wide data-driven culture. As of March 2020, our Tableau Online site has seen a 5.3 times higher weekly site traffic compared to 2019.

Education Specialist, Chemistry

May 2017 to Dec. 2018

University of British Columbia

Vancouver, BC, Canada

- Led the instructional design, research and evaluation components of [an educational technology project](#) (funded amount \$226K+) with substantial expansion from a single course pilot to ~3000 students in 7 large-enrollment courses
- Provided consultation service to instructors on best practices of integrating the online learning tool (Alchemy)
- Conducted use-case testing, ad hoc analysis and survey research (using Qualtrics) to optimize the e-learning tool
- Synthesized findings for presentations and reports

Education Research/Teaching Assistant at Faculty of Education and Center of Online and Distance Education

Aug. 2016 to Aug. 2018

Simon Fraser University

Burnaby, BC, Canada

- Utilized various types of data (Canvas Analytics, survey, and interview) to interpret the cognitive development, self-regulation, and learning behaviours in a blended learning environment
- Applied best teaching practices to ensure an effective and engaging learning experience in online teacher's education courses

Lab Instructor, Chemistry

Aug. 2016 to Apr. 2017

Kwantlen Polytechnic University

Surrey, BC, Canada

- Facilitated the full cycle of learning sections from course preparation, instructional design, implementation, to evaluation of learning in the lab and on Moodle platform

Teaching Lab Specialist

Oct. 2013 to June 2016

University of Illinois

Springfield, IL, USA

- Designed, taught and assessed learning activities in six weekly sections of science courses
- Successfully initiated and completed several technology integration projects

Skills: Tableau, R, SPSS, SQL, NVivo, Python, Survey Research, Project Management, Program Review, Self-Directed Learning, Optimizer Mindset

Selected Publications/Presentations

[7] **Tan, T. Y.**, Jain, M., Obaid, T., & Nesbit, J. C. (2019). *What can completion time of quizzes tell us about students' motivations and learning strategies?*. Journal of Computing in Higher Education, 1-17.

[6] **Tan, T.**, Bains, O., Barley E., Sharp J.C., Barker, M., (2019) *Can we influence student success in group work? The impact of lab group composition on student outcomes*, Poster presented at Society for the Advancement of Biology Education Research Annual Meeting

[5] Barker, K.M., Steves, E., **Tan, T.**, Bains, O., Barley, E., Sharp, J. (2019) Same courses, different worlds: undergraduate students learning to do lab science and graduate student TAs learning to teach science, Poster presented at Society for the Advancement of Biology Education Research (SABER West)

[4] Niu, H., Liu, Q., **Tan, TY.**, Nesbit, J.C., *Learning with Dialectical Map* (in preparation)

[3] **Tan, TY.**, Nesbit, S., Ellis, N., Ostafichuk, P. (June 2018). *Crossing Boundaries: Developing Transdisciplinary Skills in Engineering Education*, Paper presented at Canadian Engineering Education Association Conference, Vancouver, BC.

[2] **Tan, TY.**, Maxwell, E.J., Stewart J., Elouazizi, N., Algar, R. (April 2018). *Alchemy: an interactive learning platform with expert-like feedback and decision evolving toward learning analytics*. Poster session presented at the TLEF showcase at the University of British Columbia, Vancouver, BC

[1] **Tan, Y.**, Konorov, S. O., Schulze, H. G., Piret, J. M., Blades, M. W., & Turner, R. F. (2012). *Comparative study using Raman microspectroscopy reveals spectral signatures of human induced pluripotent cells more closely resemble those from human embryonic stem cells than those from differentiated cells*. Analyst, 137(19), 4509-4515.

Selected Projects

Program Review Survey Reports	Feb. 2020 to Current
Program review survey reports prepared/in progress: Art History faculty, student, and alumni surveys; Physics student and alumni surveys; English faculty, student and faculty surveys.	
Graduate Outcome Dashboards	Jan. 2020 to Feb. 2020
Interactive dashboards to visualize program outcomes of college graduates and compare institutional outcomes with peer institutions	
Quality Assurance Process Audit (QAPA) Annual Update Dashboard	June 2019 to Oct. 2019
A high-level summary dashboard that highlights year-to-year student demand, program performance, and student outcomes. This is a self-serve tool developed for department and division chairs.	
Student Mobility Dashboard	May 2019
Customized Tableau dashboards to track student transfer outcomes within B.C post-secondary systems.	
International Enrollment Forecasting Model	Mar. 2019
A user-driven Tableau dashboard that forecasts term-by-term enrollment based on applications, yield rates, and retention rates.	
English Proficiency Report	Oct. 2019
This report compares academic achievement of students with various English proficiency reports, and offers valuable evidence to validate the college's language requirements.	
Domestic Enrolment Projection Model	Feb. 2019
A what-If model built to assist domestic enrollment planning at the course and department levels	
International Student Course Section Allocation Model	Jan. 2019
A what-if Tableau dashboard that factors in international student enrollment pattern and tuition revenue, user-defined enrollment requirements, to optimize international seats in course sections.	
Data-Enabled Pedagogy and Technology for Critical Thinking and Decision Making Skills	May 2017 to Dec. 2018
<i>Department of Chemistry, the University of British Columbia</i> A pedagogical method and online tool, code-named " Alchemy ", that helps students develop critical-thinking and decision-making skills. (Learn more on our TLEF showcase poster)	
Learning with Web-Based Dialectical Maps	June 2018 to Aug. 2018
Our team developed and evaluated a new argument visualization tool - dialectical maps (DM). Studying with DM increased confidence in learning, recall and comprehension, and argumentative writing.	
Developing Transdisciplinary Skills in Engineering Education	Apr. 2017 to June 2018
<i>Faculty of Applied Sciences, the University of British Columbia</i>	
Learning-Related Motivation and Student Engagement with Online Quizzes	Jan. 2017 to Sept. 2017
<i>Faculty of Education, Simon Fraser University</i> I analyzed student achievement, Canvas log, and survey data with SPSS, R, and Tableau; identified quiz completion time as a proxy indicator of student motivation based on correlation and multivariate analyses.	
Cultivating Student Study Skills with Strategy Reflection Assignment	Jan. 2017 to Sept. 2017
<i>Faculty of Education, Simon Fraser University</i>	
Investigating the Perceived Impact of Undergraduate Research Experience	May 2017 to Aug. 2017
<i>Institute for the Study of Teaching and Learning in the Disciplines, Simon Fraser University</i>	
Blackboard Learning Management System Integration	Jan. 2014 to Dec. 2014
<i>Chemistry Department, the University of Illinois at Springfield</i>	
Electronic Lab Notebook Implementation	Dec. 2013 to May 2014
<i>Chemistry Department, the University of Illinois at Springfield</i>	

Education

Simon Fraser University · 2016 to 2018
 Courses completed: Advanced Quantitative Methods in Education Research, Qualitative Methods in Education Research, Contemporary Theory and Research in Educational Psychology

University of British Columbia
 M.S. Analytical Chemistry 2012

Peking University · 2005 to 2009
 B.Sc. Chemistry