

Flipping Library Instruction: Singapore Polytechnic Library's Experience

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Abstract

In line with Singapore Polytechnic's adoption of the flipped classroom pedagogy in 2015, this paper focuses on the transition of library instruction from a traditional to a flipped approach. The librarians at Singapore Polytechnic experimented with various methods to move library instruction to Business School students from one-shot to 'just-in-time' delivery using EduTech tools and scaffolding. From a face-to-face delivery session at the beginning of term, we transitioned to a flipped instructional approach comprising a briefing at the beginning of term and consultation sessions in the middle of term to be in sync with periods when the students' information needs would arise. This new approach seeks to improve the effectiveness of developing essential information literacy skills, while leveraging on technology to scale up and deliver library instruction in a sustainable manner.

Keywords:

information literacy, flipped classroom, library instruction, educational technology

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Introduction

For many years, Singapore Polytechnic (SP) Library adopted a one-shot library instruction approach to introduce library-subscribed databases and information sources to students from the SP Business School (SB) for their core marketing foundational module project. Students were required to search for market research information, and analyse and present their findings with appropriate citation for their project assignments.

While feedback received from the evaluation at the end of the library tutorial sessions was favourable, students would submit Project Advisory requests to consult their school librarian on specific steps within the respective databases to navigate and obtain relevant information. This occurred throughout the semester. This made us ponder over the effectiveness of the instruction approach and evaluation methods especially as students seemed overwhelmed by the content covered and were not engaged during the sessions despite the positive evaluation. It appeared that they had yet to fully grasp project requirements gauging from the consultation requests for the librarian to repeat similar content. The approach also failed to fully promote the motivation for self-directed learning as students knew that they could depend on the library instructional sessions for a brief recap of the materials. All of this was similar to findings by Portmann and Roush (2004), where one-shot library instruction helped influence students' library usage, but not their information literacy skill development.

In addition, the librarians were physically drained after the large volume of library instruction classes conducted within a period of 2 weeks each semester. In terms of scheduling, the large number of library instructional classes and briefings that had to be conducted during that period constrained us from conducting sessions for other modules and schools.

Background

In the traditional library instruction approach for SB students, the sessions were conducted over a period of 2 weeks near the beginning of the semester. Each session lasted 1.5 hours and total face-to-face delivery amounted to approximately 45 hours per semester. Hands-on tutorial activities were included in each session, where students acquainted themselves with the databases. A team of up to 5 librarians were deployed for the delivery of these instructional classes.

In 2016, when the core marketing foundational module was selected to be one of the pilot modules that would adopt the “flipped classroom” pedagogy, we saw the opportunity to collaborate with the module coordinator to transform library instruction using a “flipped approach” for more effective use of face-to-face interaction time (Chin, 2016).

First steps in flipping library instruction

The librarians prepared for the flipped approach by designing a customized package for SB students containing videos, information resources and search strategies intended to guide them through the process of researching and gathering information for their industry project. The prior experience and skills from having successfully experimented with educational technology (EduTech) tools to introduce an online information literacy learning package for the Polytechnic wide General Education module was useful in this context. The content in the package was structured to align with lecture topics covered in the weekly schedule over the semester. Through this redesign, students could access and apply information based on their understanding from lecture and tutorial sessions. This empowered them to access information and learn at their own time, similar to what “just-in-time” delivery sets out to achieve (Ally, 2010).

In the new approach, librarians conducted a 15-minute briefing as part of the Week 1 lecture to familiarize students with the resources so that they could access the content as they progressed into the semester. The face-to-face one-shot library instruction was held in Week 4 of the semester, where each session lasted 45 minutes. These sessions functioned similarly to previous library tutorial sessions, where librarians visited each project group within the tutorial class to answer their questions pertaining to information search and also looked through their report. Two librarians were deployed for the delivery of these instructional classes and they covered the entire cohort taking the module in the span of 1 week.

With this implementation, total face-to-face delivery was reduced to approximately 35 hours per semester. On average, librarians spent 5 to 10 minutes with each project group and thus were unable to gauge the quality of information search in detail. We noticed that student responses varied across the cohort. There were groups with no questions, while there were others with several questions. Those with questions would then arrange for follow-up consultation requests to meet with the librarian.

Introducing a more “targeted” approach

In 2018, in line with SP’s push to promote self-directed learning, we experimented with a more “targeted” approach for the flipped library instruction.

Under this updated format, librarians conduct a 20-minute briefing as part of the Week 1 lecture to familiarize students with the resources so that they are able to access the content as they progress into the semester. Citation basics are also covered as the module has been infused with report writing and presentation skills elements.

The mandatory face-to-face one-shot library instructional sessions that were conducted during the module tutorial session were replaced with optional group-based consultation sessions with the librarian in Week 5. Each session typically lasts between 35 to 40 minutes. During these sessions, students come prepared with working versions of their project reports and questions pertaining to the information search. Most of the report drafts would have been appraised by the tutors, and this process permits students to ask more targeted questions.

This approach also allows the librarian to provide relevant prompting questions during the consultation session to guide students in articulating information needs, seeking out relevant information sources, and evaluate the relevance of the information to project needs. This is important as real world experiences must be merged with facilitative instruction for students to work in collaborative teams, think critically and solve problems flexibly (Darling-Hammond, et al., 2008) in order for learning to be meaningful. After having gone through the search process during the consultation session, we hope that students are able to make the connections, reflect upon their thought process and appreciate the importance of developing an individualized search strategy which works best for their specific needs.

Our customized package ensures that sufficient resources are made available to all students for them to get started on the project. This aids students to develop resourcefulness in finding additional sources for their analysis. This is an important skill to develop given the increasingly volatile, uncertain, complex and ambiguous (VUCA) nature of the external environment, where it will be important for students to learn to identify clear learning goals for themselves and exercise flexibility in getting there (Johansen & Euchner, 2013). At the same time, allowing students to request for consultation sessions ensures that more of our time will be available for students who require additional guidance. Making these sessions

optional frees up staff workload to a certain extent, and allows attention to be devoted to students who need it most.

Discussion of evaluation

Tables 1 and 2 summarize the evaluation from students in the various library instruction modes. There was marked improvement in terms of the evaluation by students with the new format of “flipped library instruction” in 2016. While we retained the format of library instruction in 2017, the next year we proposed for evaluation to be administered in Week 6 of the semester when students had completed most of the information search for the project. To achieve this, we sought assistance from the module coordinator to send out a reminder email during this period. While average rating for student evaluation remained above 4 (or a “good” rating), there was a slight drop when compared to previous data.

Table 1: Evaluation of library instruction by students

Mode of library instruction		1.5 hours one-shot library instruction	Flipped library instruction (briefing with mandatory 45 min one-shot library instruction)	Flipped library instruction (briefing with optional consultation sessions)		
Period of evaluation administration		Week 2 (at end of one-shot library instruction)		Week 6 (1 week prior to project submission)		
Evaluation Questions (Students)		Av Rating AY15/16 Sem. 1	Av Rating AY16/17 Sem. 1	Av Rating AY17/18 Sem. 1	Av Rating AY18/19 Sem. 1 (without consultation)	Av Rating AY18/19 Sem. 1 (with consultation)
Q1 - Instructor	The instructor's presentation was clear and easy to understand.	4.29	4.38	4.13	4.11	4.36
Q2 - Content	The coverage was well-organised and relevant for my coursework/project	4.37	4.35	4.08	4.15	4.34
Q3 - Advisory	The advisory session helped me to improve my ability to use library and information resources effectively.	4.02	4.29	4.05	4.01	4.45

Q4 - Overall	Overall evaluation of this library session.	4.22	4.31	4.09	4.06	4.34
Total number of responses		300	235	186	416	74

*Evaluation rating: 5 - Strongly agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly disagree

Table 2: Evaluation of use of resources by students

Mode of library instruction		Flipped library instruction (briefing with mandatory 45 min one-shot library instruction)		Flipped library instruction (briefing with optional consultation sessions)	
Period of evaluation administration		Week 6 (1 week prior to project submission)			
Evaluation Questions (Students)		Av Rating AY17/18 Sem. 1	Av Rating AY18/19 Sem. 1 (without consultation)	Av Rating AY18/19 Sem. 1 (with consultation)	
Q1 - Resources	The library videos helped me learn how to search for information. (Yes/No, provide comments to support your feedback).	85% (Yes)	83% (Yes)	92% (Yes)	
Q2 - Resources	I am able to find relevant information using the databases/resources provided by library. (Yes/No, provide comments to support your feedback)	85% (Yes)	87% (Yes)	89% (Yes)	
Total number of responses		186	416	74	

**Comparisons were omitted for AY15/16 & AY16/17 due to library instruction format incompatibility.

In particular, it was interesting to note the difference in ratings from students who attended consultation and those who did not in AY18/19 Semester 1. To gauge the actual effectiveness of these optional group-based consultation sessions, we obtained the grades of these student groups from the module coordinator and tutors.

Table 3 summarizes these students' performance in the assignment in which they were required to search for market research information, analyse and present their findings with

appropriate citation. In the assessment rubrics, 25% of the score is related to information literacy skills. It was heart-warming to see that 39% of the groups performed above average where they attained an ‘A’ grade. The tutor also remarked upon the ‘excellent industry and marketing analysis done’ by the two students groups who scored the highest in their respective classes.

Table 3: Breakdown of students' performance by groups

Performance	Numerical breakdown	Percentage breakdown
Above average	7	39%
Average	8	44%
Below average	3	17%
Total	18	100%

Conclusion

In experimenting with various modes of library instruction, SP library attempted to enhance the students’ learning experience by ensuring alignment to the pedagogical methods adopted by the Business School. Through incorporating videos and conducting briefing sessions to guide students through the navigational process, we sought to enhance usability and accessibility of resources provided by the Library. This approach also helped us leverage technology to scale up library instruction and reach the entire cohort in a sustainable manner.

In line with promoting the concept of self-directed learning, we made library consultations optional. This option allowed us to have sufficient resources to provide targeted guidance and advice to student groups who needed them. The other student groups were either self-sufficient or may have sought guidance from other sources. This approach is in agreement with Kinsinger and Walch (2013) where one needs to “possess the knowledge, mindfulness, and ability to... make sense of the world”, seek clarity where necessary and practice agility in responding to challenges.

As the institution continues on the journey to realise its vision of developing a ‘caring community of inspired learners to serve with mastery’, the library will continue to explore ways of delivering library instruction in a manner which is relevant and more effective in developing the information literacy skills which are essential for students. We hope that we can work towards delivering more library instruction using the “flipped classroom” pedagogy which develops higher order thinking skills (Liu, et al., 2018).

References

- Ally, M. (Ed.). (2009). *Mobile learning : transforming the delivery of education and training*. Edmonton, AB: Athabasca University Press.
- Chin, C. (2016, September 16). *How Singapore Polytechnic is personalising learning*. Retrieved July 9, 2018, from GovInsider: <https://govinsider.asia/smart-gov/how-singapore-polytechnic-is-personalising-learning-2/>
- Darling-Hammond, L., Barron, B., Pearson, P. D., Schoenfeld, A. H., Stage, E. K., Zimmerman, T. D., Cervetti, G.N., Tilson, J. L. (2008). *Powerful Learning: What We Know About Teaching for Understanding*. San Francisco: Jossey-Bass.
- Johansen, B., & Euchner, J. (2013, Jan/Feb). Navigating the VUCA World: An Interview with Bob Johansen. *Research Technology Management*, 10-15.
- Kinsinger, P., & Walch, K. (2013, July 11). *Living and Leading in a VUCA World*. Retrieved from http://www.forevueinternational.com/Content/sites/forevue/pages/1482/4_1__Living_and_Leading_in_a_VUCA_World_Thunderbird_School.PDF
- Liu, S., Yang, X., Zhang, H., Wang, Y., Yoneda, T., & Li, Z. (2018). Study on Teaching Methods for Developing Higher Order Thinking Skills for College Students in Flipping Classroom. *2017 International Conference of Educational Innovation through Technology (EITT)* , (pp. 254-257). Osaka, Japan.
- Portmann, C. A., & Roush, A. J. (2004). Assessing the effects of library instruction. *The Journal of Academic Librarianship*, 30(6), 461-465.