

BUSINESS CASE	
Proposed Project	EduTrack
Date Produced	Thursday Oct. 31, 24
Background	<p>A good approach for a successful project is to pass through multiple stages, like initiating, planning, executing, and closing. The initiating phase requires some steps, including problem definition. Given the significant challenges that college students face, leading to academic failure, a EduTrack could serve as an effective solution. The statistics strongly support the positive impact of planning tools on academic success.</p>
Business Need/ Opportunity	<p>This project is design and development centered of a web-based application for a personalized academic planner. The EduTrack is designed to assisting college students in enhancing their time management abilities, lowering stress related to the workload of their courses, and improving their study habits so they earn higher grades. The motivation behind this project stems from the requirement for a more effective academic planner to aid college students in managing their courses, where ineffective time management impacts negatively in their failure.</p> <p>Reasons for Academic Failure in College Students</p> <ol style="list-style-type: none"> 1. Lack of Time Management: According to a study by the University of Minnesota, 87% of students face difficulties in managing their time effectively, leading to academic failure. <p>Resources:</p> <ol style="list-style-type: none"> 1. University of Minnesota Learning and Academic Skills Center. Time Management Resources: https://effectiveu.umn.edu/time/management <ul style="list-style-type: none"> • Britton, B. K., & Tesser, A. (1991). "Effects of time-management practices on college grades." Journal of Educational Psychology, 83(3), 405–410. https://doi.org/10.1037/0022-0663.83.3.405 2. Poor Study Habits: A survey by Cengage Learning found that 47% of college students struggle with ineffective study methods, impacting their academic performance. <p>Resources:</p> <ul style="list-style-type: none"> • Cengage Student Success Resources: https://www.cengage.com/student-success/ • Credé, M., & Kuncel, N. R. (2008). "Study habits, skills, and attitudes: The third pillar supporting collegiate academic performance." Perspectives on Psychological

Science, 3(6), 425–453. <https://doi.org/10.1111/j.1745-6924.2008.00089.x>

3. **Financial Stress:** According to a report by Georgetown University, 70% of students work while in college, leading to academic stress and failure due to divided attention.

Resources:

- Georgetown University Center on Education and the Workforce. <https://cew.georgetown.edu/cew-reports/workinglearners/>
- Journal of College Student Retention: Research, Theory & Practice, 10(3), 287–305. <https://doi.org/10.2190/CS.10.3.c>

4. **Mental Health Issues:** A study published in the Journal of American College Health found that 64% of college dropouts do so because of mental health issues like depression and anxiety.

Resources:

- The B.E. Journal of Economic Analysis & Policy, 9(1). <https://doi.org/10.2202/1935-1682.2191>
- Mental health problems and help-seeking behavior among college students. Journal of Adolescent Health, 46(1), 3–10. <https://doi.org/10.1016/j.jadohealth.2009.08.008>

5. **Lack of Academic Support:** A report by Inside Higher Ed states that 55% of students feel they lack adequate academic support, leading to failure.

Resources:

- Jaschik, S. (2020). Survey of Student Engagement Highlights Importance of Faculty Interaction. Inside Higher Ed. <https://www.insidehighered.com/news/2020/11/12/national-survey-student-engagement-finds-online-students-missing-interactions-faculty>
- NSSE (2020). Engagement Insights: Survey Findings on the Quality of Undergraduate Education. <https://nsse.indiana.edu/research/annual-results/index.html>

Can Planning Be One of the Best Solutions?

1. **Improves Time Management:** A study by the American Psychological Association found that students who use planning tools are 2x more likely to manage their time effectively.

Resources:

- American Psychological Association. (2019). “Helping students learn time management skills.” <https://www.apa.org/ed/precollege/psn/2019/01/time-management>
- Britton, B. K., & Tesser, A. (1991). “Effects of time-

management practices on college grades." Journal of Educational Psychology, 83(3), 405–410.
<https://doi.org/10.1037/0022-0663.83.3.405>

2. **Enhances Study Habits:** According to a report by McGraw-Hill Education, 81% of students who used digital planning tools saw an improvement in their study habits.

Resources:

- McGraw-Hill Education. (2016). "Digital Study Trends Survey." Digital Study Trends Survey.
<https://www.mheducation.com/news-insights/articles/digital-study-trends-survey.html>
- Barak, M., Lipson, A., & Lerman, S. (2006). "Wireless laptops as means for promoting active learning in large lecture halls." Journal of Research on Technology in Education, 38(3), 245–263.
<https://doi.org/10.1080/15391523.2006.10782459>

3. **Reduces Stress:** A study in the Journal of Educational Psychology found that the use of planning tools reduced academic stress by 37%.

Resources:

- Macan, T. H., Shahani, C., Dipboye, R. L., & Phillips, A. P. (1990). "College students' time management: Correlations with academic performance and stress." Journal of Educational Psychology, 82(4), 760–768.
<https://doi.org/10.1037/0022-0663.82.4.760>
- Britton, B. K., & Tesser, A. (1991). "Effects of time-management practices on college grades." Journal of Educational Psychology, 83(3), 405–410.
<https://doi.org/10.1037/0022-0663.83.3.405>

Are There Statistics to Support This?

Yes, a study by the Journal of College Student Retention found that students who used academic planning tools had a 21% higher retention rate compared to those who did not.

Resources:

- Robbins, S. B., Oh, I. S., Le, H., & Button, C. (2009). "Intervention effects on college performance and retention as mediated by motivational, emotional, and social control factors: Integrated meta-analytic path analyses." Journal of Applied Psychology, 94(5), 1163–1184. <https://doi.org/10.1037/a0015738>

The economic study approach conducted called Net Present Worth (NPW). In which we are citing the worth of a college student study's in the present and compare that to future worth. In an attempt to reduce expenditure against income, see Timing of Costs and Income diagram attached below.

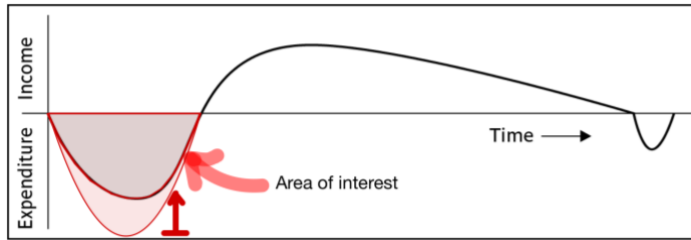


Fig.-1 Timing of Costs and Income Diagram

Study terms and equations:

$$NPW = PW \text{ of benefits} - PW \text{ of costs}$$

NPW: Net Present Worth

PW: Present Worth

$$P = \frac{1}{F(1+i)^n} = F(1+i)^{-n}$$

P: Present of Now (starts from period 0 to the beginning of period 1 in the cash flow diagram)

F: Future amounts happened at the end period specified

i: interest rate

n: number of years

A: any event occurs e.g., deposit

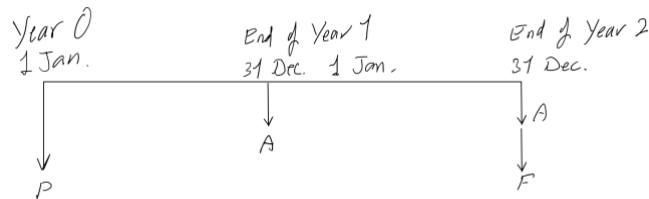


Fig.-2 Cash Flow Diagram

Study process:

We are considering a case of a student who is receiving Student Loans from the Canadian government and uses that fund for five classes per semester.

Interest rate of Student Loans:

Federal Student Loans:

- **Fixed Interest Rate:** The fixed interest rate is Prime Rate + 2%.
- **Floating Interest Rate:** The floating interest rate is Prime Rate + 0%.
- Resources:
 - CBC News. "Graduating this year? Here's what you need to know about repaying your student loans.". May 30, 2023 2:00 AM CST | Last Updated: May 30, 2023.
<https://www.cbc.ca/news/business/canada-student-loans-repayment-tips-1.6858596>
 - Saskatchewan Province. "Repay Your Student Loan."
<https://www.saskatchewan.ca/residents/education-and-learning/student-loans/after-you-apply/repay-your-student-loan>

loan

Provincial Student Loans:

- The interest rate can vary depending on the province. Some provinces may offer interest-free loans, while others may have interest rates that are different from the federal rates.

Example:

Currently the Prime Rate is 7.2%, then:

- The fixed interest rate would be 9.2% (7.2% + 2%).
- The floating interest rate would be 7.2% (7.2% + 0%).
- Resources:
 - Government of Canada. "Loan Repayment Estimator." <https://tools.canlearn.ca/cslgs-scpse/cln-cln/crp-lrc/af.nlindex-eng.do>

Cost per semester:

We are estimating the cost of five classes per semester at UoR for a Canadian/PR student as much as or close to \$5000 (*self-experience*). Now, we will calculate the cost of two years period in two cases: without failing courses and with failing courses.

The cost of failing free courses:

We are assuming the case of failing two courses per year.

The fact is the course itself costs around \$700 (self-experience).

$$\begin{aligned} PW \text{ of benefits} &= [(\$5,000 \times 6)] + [(\$5,000 \times 6)](P/F, 9.2\%, 2) \\ &\approx \$30,000 + \$25,158 \\ &\approx \$55,158 \end{aligned}$$

The cost with failing courses:

$$\begin{aligned} PW \text{ of cost} &= [(\$5,000 \times 6) + (\$700 \times 4)] \\ &\quad + [(\$5,000 \times 6) + (\$700 \times 4)] \left(\frac{P}{F}, 9.2\%, 2 \right) \\ &\approx [\$32,800] + [\$32,800] \times (P/F, 9.2\%, 2) \\ &\approx \$32,800 + \$32,348 \\ &\approx \$65,148 \end{aligned}$$

Conclusion of the Study:

$$NPW = PW \text{ of benefits} - PW \text{ of costs}$$

$$\approx \$55,158 - \$65,148$$

$$\approx -\$9,990$$

The impact (cost) of failing four courses per two years is \$9,990, which equals to the value of the full two semesters cost. That is also without including the marginal costs, like transportation, communication, life expenses, and mental and emotional costs.

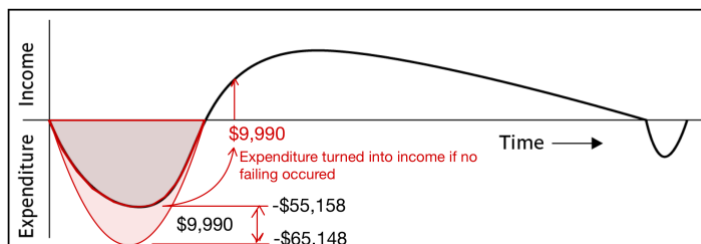


Fig.-3 Timing of Costs and Incomes (failing / failing free cases)

	In conclusion, the app is a good tool to be used by a student to achieve fewer financial costs or more beneficial benefits, less stress, and best academic performance.
Options	We conduct the project to assisting college students in enhancing their time management abilities, lowering stress related to the workload of their courses, and improving their study habits so they earn higher grades.
Cost-Benefit Analysis	
<p>Cost Benefit Analysis EduTrack</p> <p>Benefits</p> <ul style="list-style-type: none"> - Gaining Stronger software and web developing design skills. - More knowledge of software project management skills. - Increased recognition of EduTrack among university students. - A rise in the EduTrack's popularity and among university students. - Students benefit from using EduTrack on developing better academic planning and increasing academic performance. <p>Cost</p> <ul style="list-style-type: none"> • Financial Expenditures: \$0 cost since team members are utilizing their won laptops. Also, they have free access to UoR labs and library computers and resources. • Time Required: Approximately 3 months of development time. <p>Risks:</p> <ul style="list-style-type: none"> - Because of the time limitations associated with manager office hour meetings and group discussion meetings, lead to exceeding due dates. - Issues with correctly developing the project could add cost and lengthen the development time. - The lab lectures are a good source for needed web developing skills. Unsynchronized lab schedule affects group's capability to adhere with project requirements. - The haste to complete expected work before each deadline could compromise desired level of usability. - The above points may lead to marks reduction and / or low-quality product. <p>Quality:</p> <ul style="list-style-type: none"> - If team was able to submit the EduTrack on time the best quality will have a better chance to be existed. 	
Recommendation	
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