



CO-OP PROGRAM ANALYSIS

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ABOUT PROJECT

Cooperative education at Drexel University enables undergraduate students to balance classroom theory with practical, hands-on experience prior to graduation.

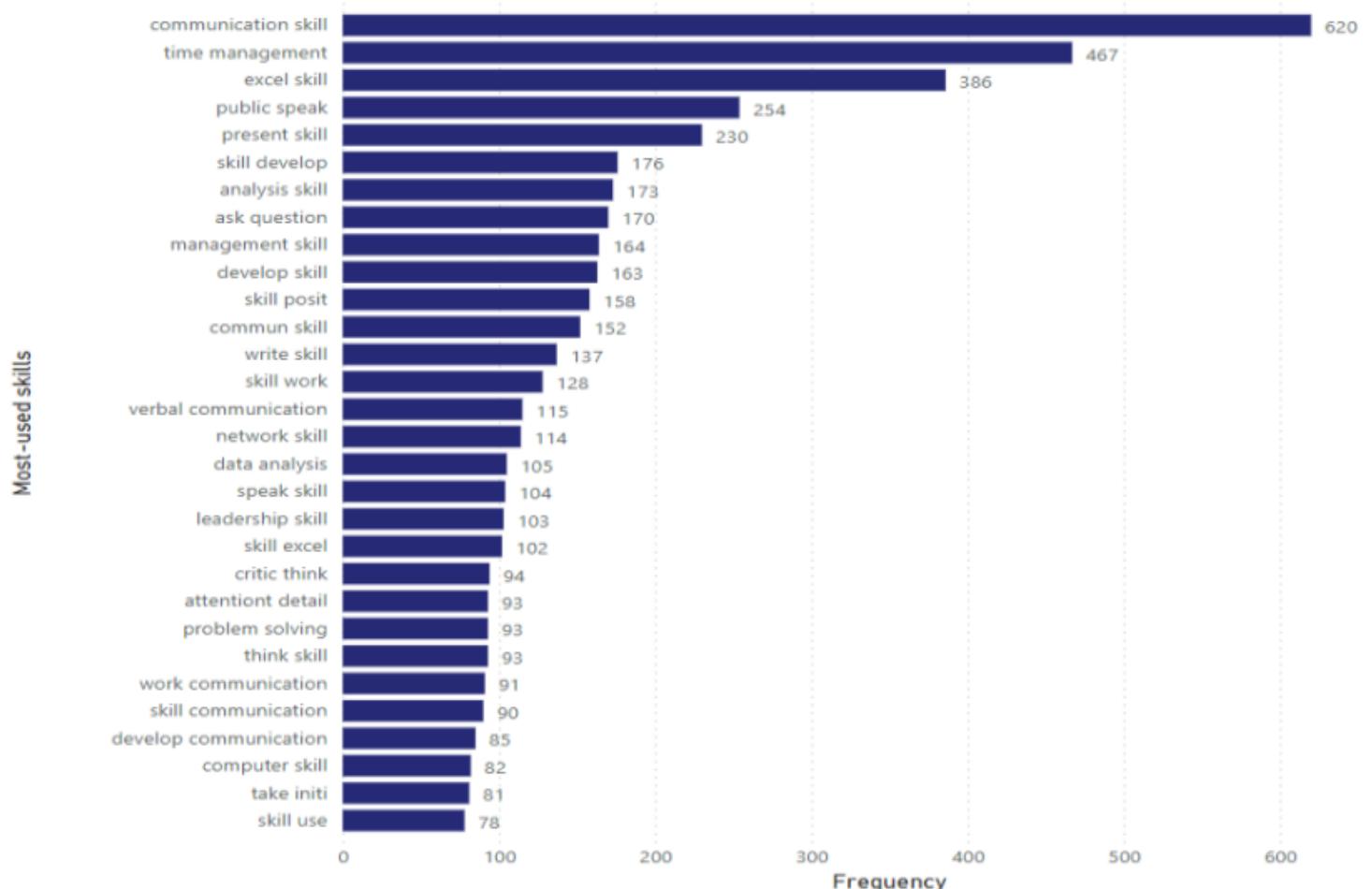
Drexel offers two co-op programs: the five-year program with three co-op experiences and the four year with one co-op experience. For most majors there is an option of five-year or four-year.

In our analytical project, we combined all data collected during Co-op program for LeBow undergraduate students from 2014 to 2021. Then, we performed text mining, sentiment analysis, thematic analysis, and score calculation to define:

1. Themes and frequencies of technical and soft skills
2. Skill gaps by employers
3. Comparison of skills between student and employer. Confirm that students rate themselves higher than employer would and visa-versa
4. Find the relation between strengths and personality characteristics, skills or academic knowledge
5. Themes and frequencies of negative and positive languages
6. Themes and frequencies of growth and leaning languages
7. The change in goals of students after co-op program
8. Correlation between co-op experience and confidence

SKILLS IN STUDENTS' PERSPECTIVE

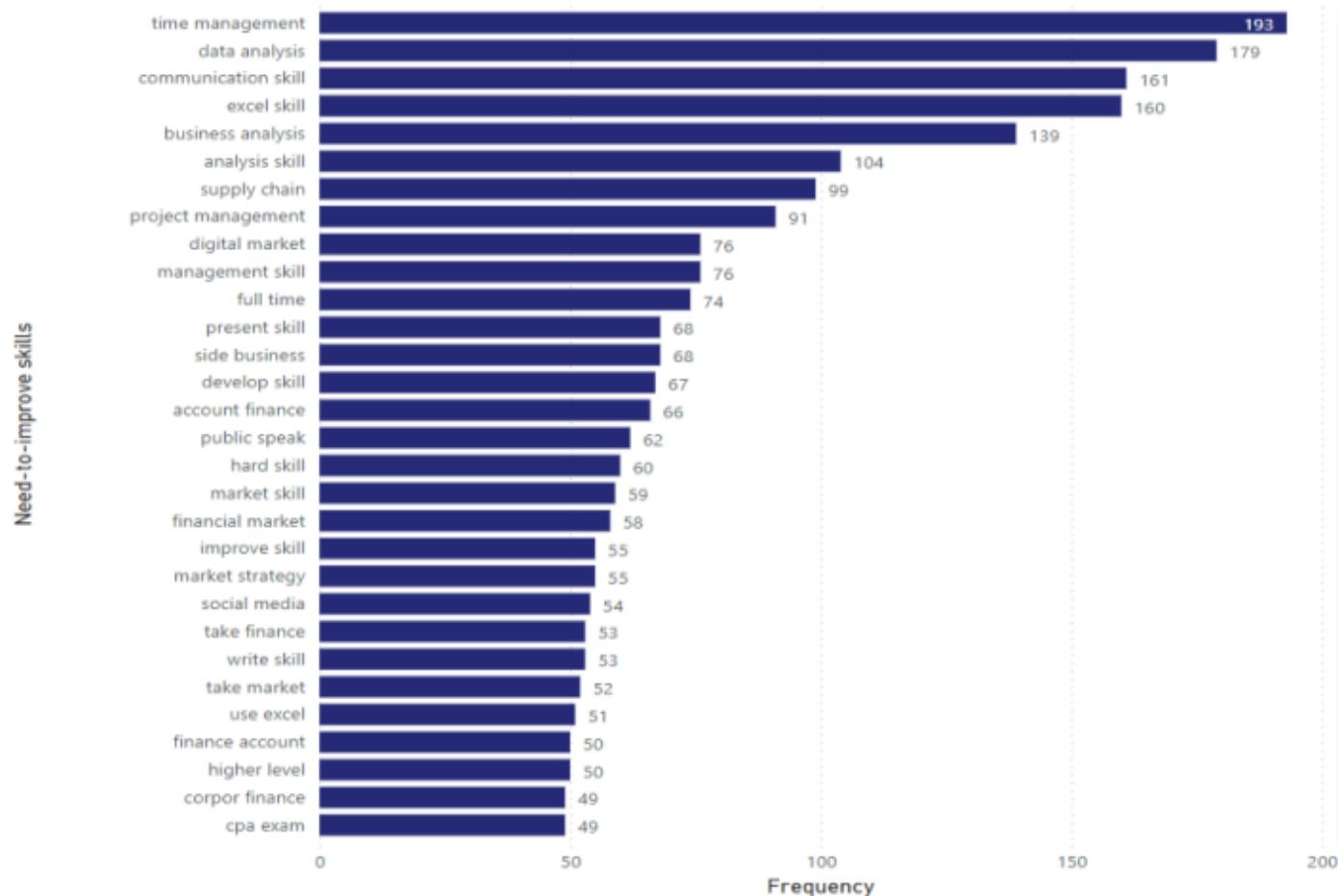
Frequency by Most-used skills



In students' perspective, communication skill, time management, excel skill, public speak, present skill, skill develop, analysis skill, ask question management skill, develop skill are most frequent, skills in use during co-op program. In these skills analysis and excel are the most important technical skills for students

SKILLS IN STUDENTS' PERSPECTIVE

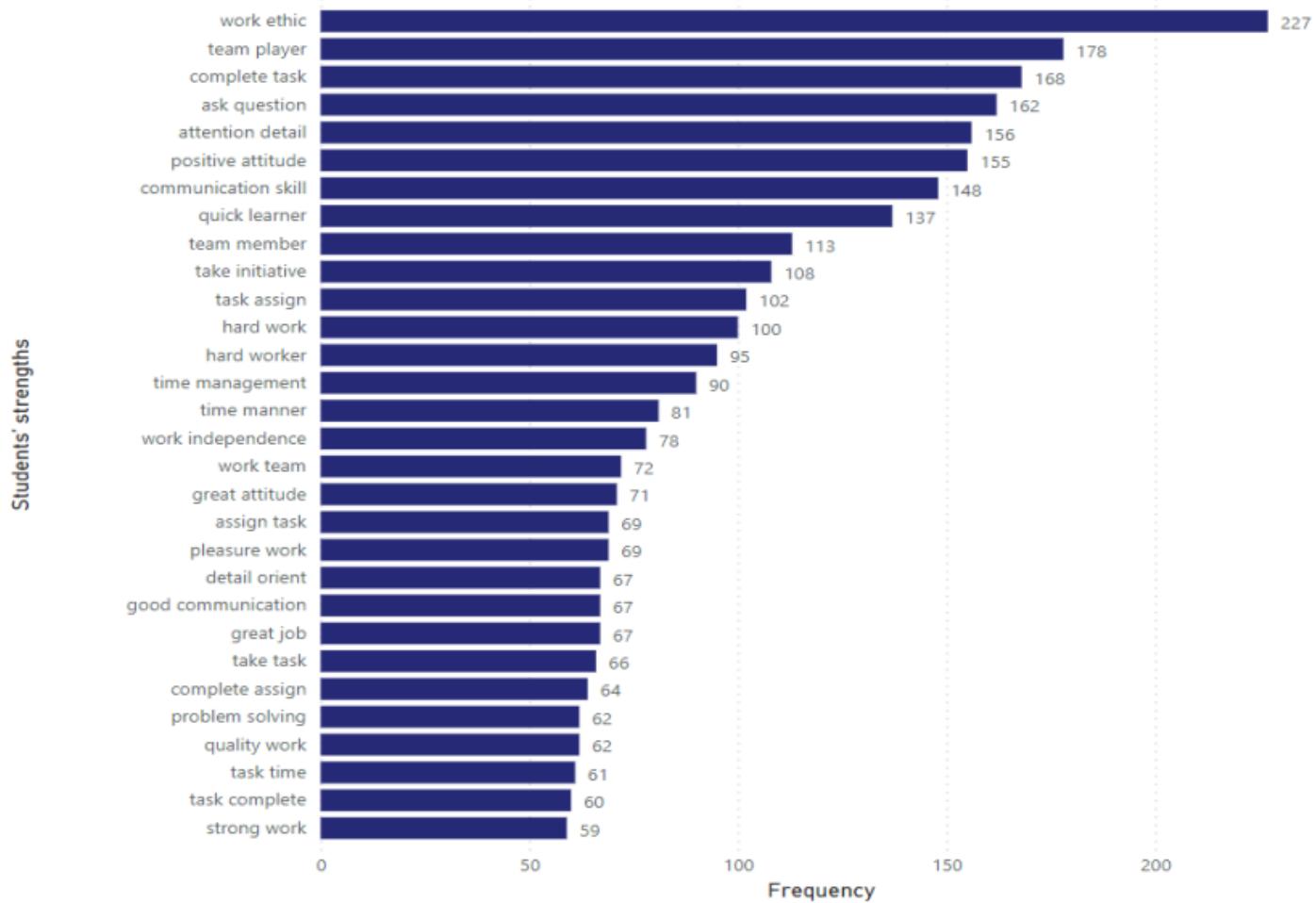
Frequency by Need-to-improve skills



In student's perspective, time management, data analysis, communication, excel skill, business analysis, supply chain, project management, digital market are most frequent terms, presenting skills that students need to improve. In this section, there are a lot of technical skills that students are lack of and need to improve.

SKILLS IN EMPLOYERS' PERSPECTIVE

Frequency by Students' strengths

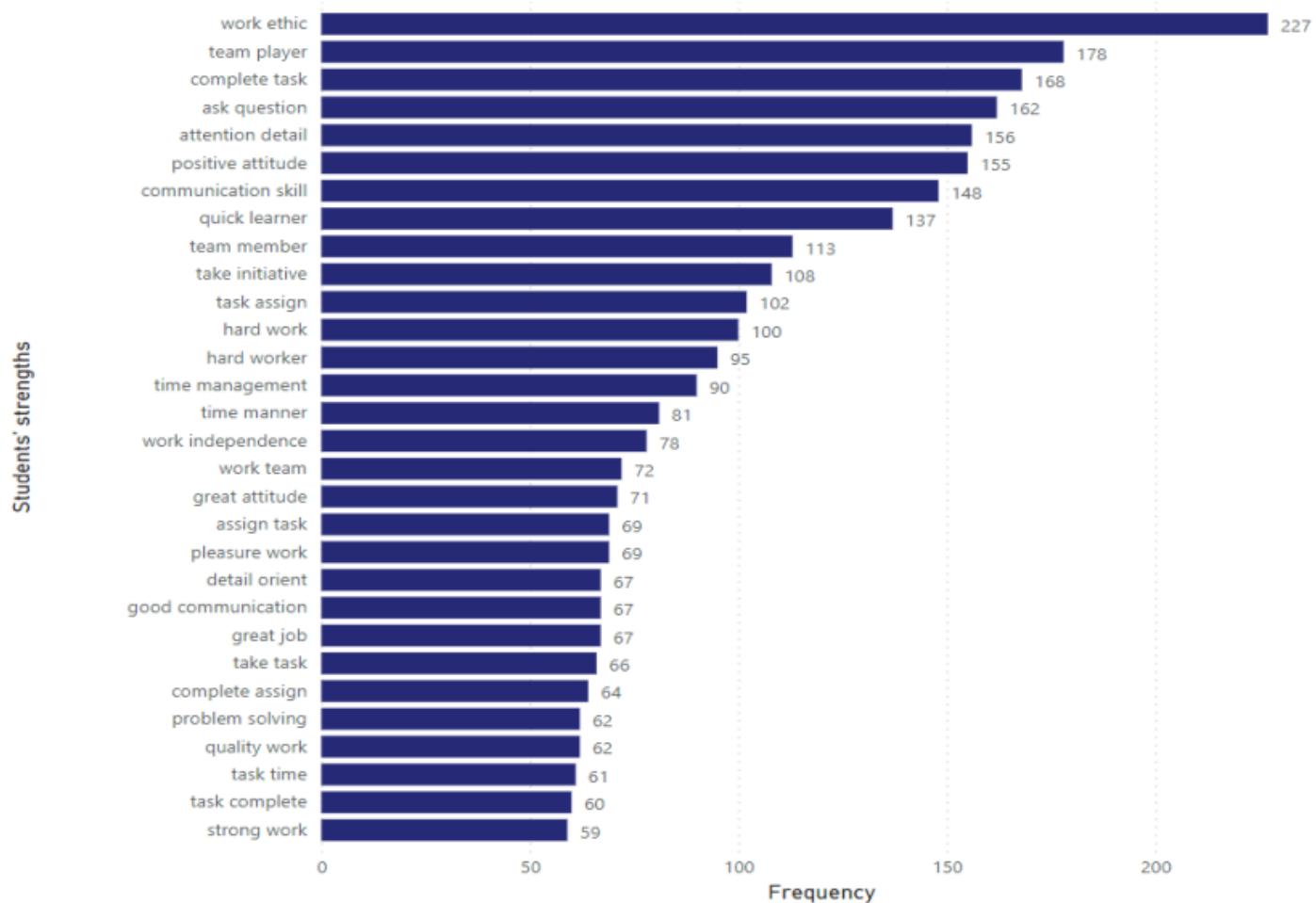


In employers' perspective, work ethic, team player, complete task, ask question, positive attitude, communication skill, team member and take initiative are the most frequent terms presenting the strengths of students during co-op program. This mean that Drexel students are good at teamwork and communicate well. They are also has positive attitude to overcome difficulties and learn quickly.

It is obvious that strengths represent the personality characteristics and skills. These strengths are both interpersonal and technical skills that LeBow undergraduate students acquired that helped them impress employers during co-op program.

SKILLS IN EMPLOYERS' PERSPECTIVE

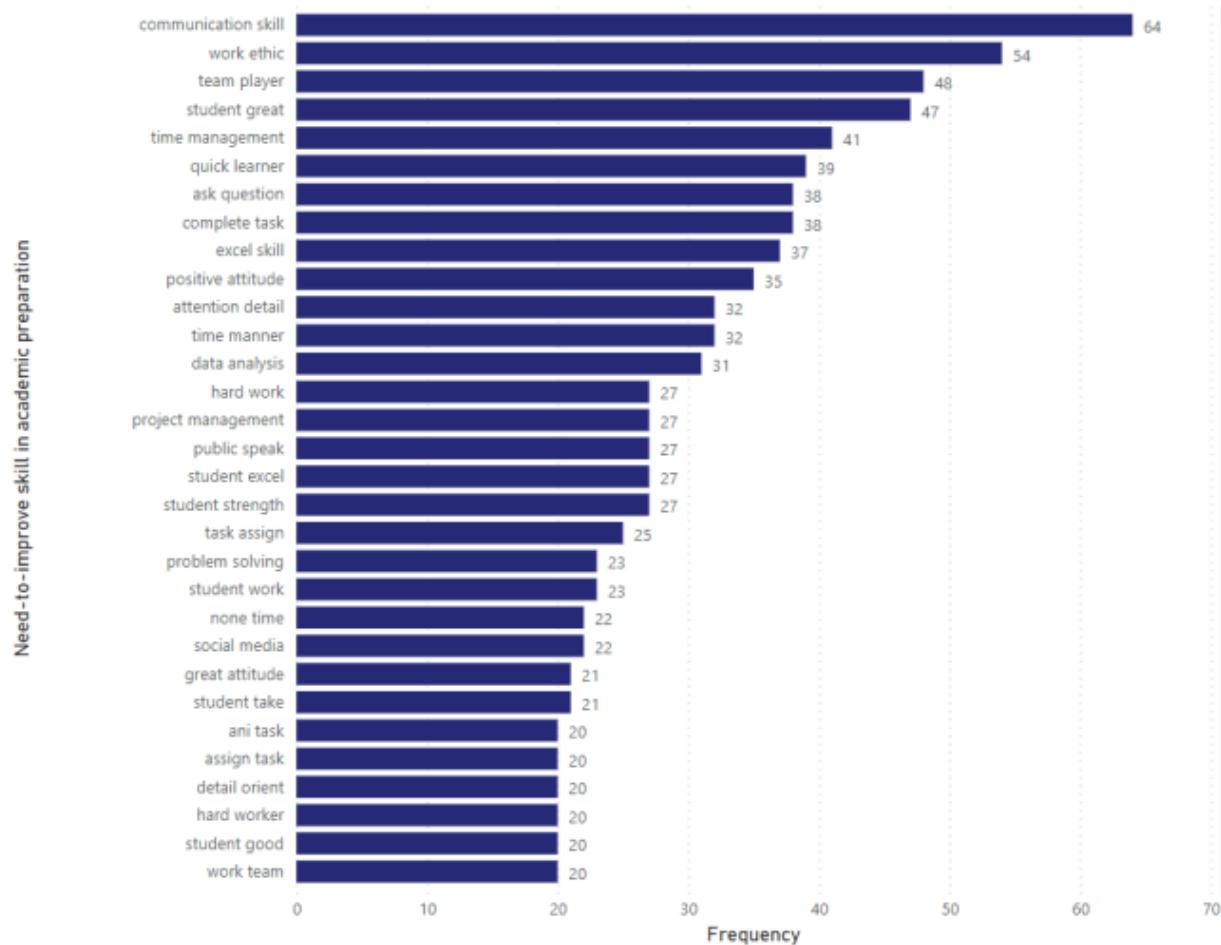
Frequency by Students' strengths



In employers' perspective, work ethic, team player, complete task, ask question, positive attitude, communication skill, team member and take initiative are the most frequent terms presenting the strengths of students during co-op program. This mean that Drexel students are good at teamwork and communicate well. They are also has positive attitude to overcome difficulties and learn quickly.

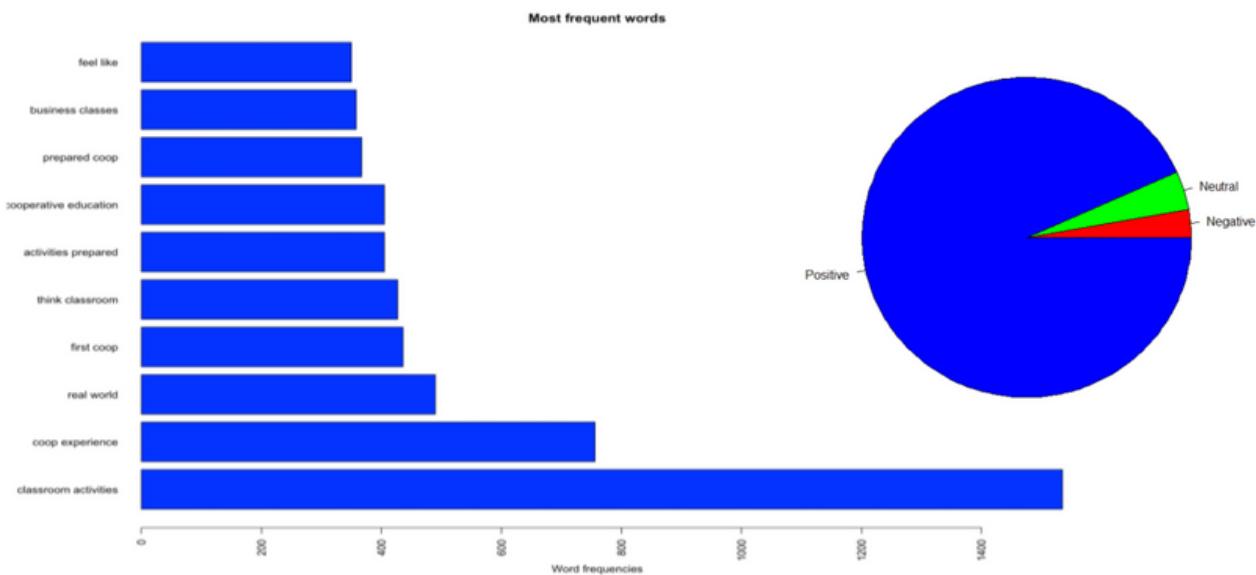
CONCLUSION

Frequency by Need-to-improve skill in academic preparation



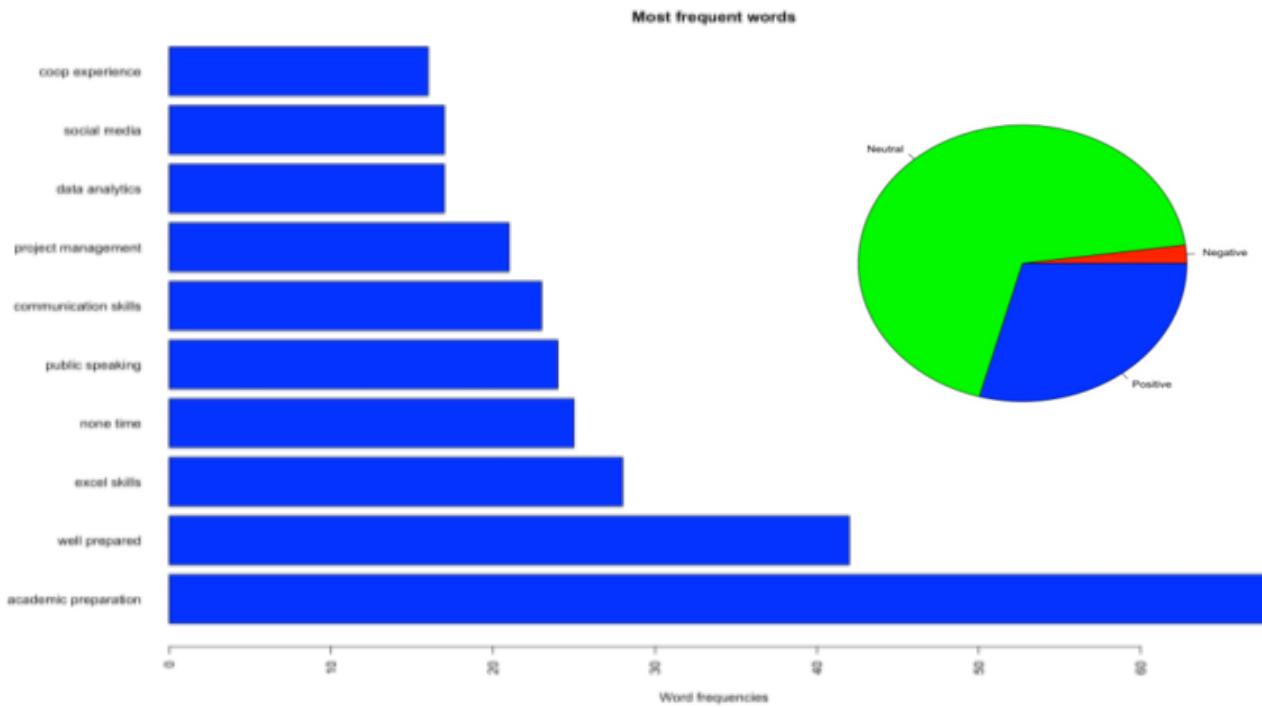
In student's perspective, time management, data analysis, communication, excel skill, business analysis, supply chain, project management, digital market are most frequent terms, presenting skills that students need to improve . In this section, there are a lot of technical Communication skill, work ethic, team player, student great, time management, quick learner, ask question, complete task, excel skill, positive attitude are skills that students should be prepared at school . These skills are in both strengths and weakness comments . This means, Drexel should provide students with more dynamic environment for them to develop soft skills in social network and teamwork . In addition, they also need to provide students with academic project to improve technical skills such as excel and data analytics. Combine skills in students and employers' perspectives, communication skill is the most important soft skills , while excel and analysis skills are the most important technical skills . Although students could apply these skill during co - op program and perform them well, they also need to improve these skills .

SENTIMENT ANALYSIS IN STUDENTS' PERSPECTIVE



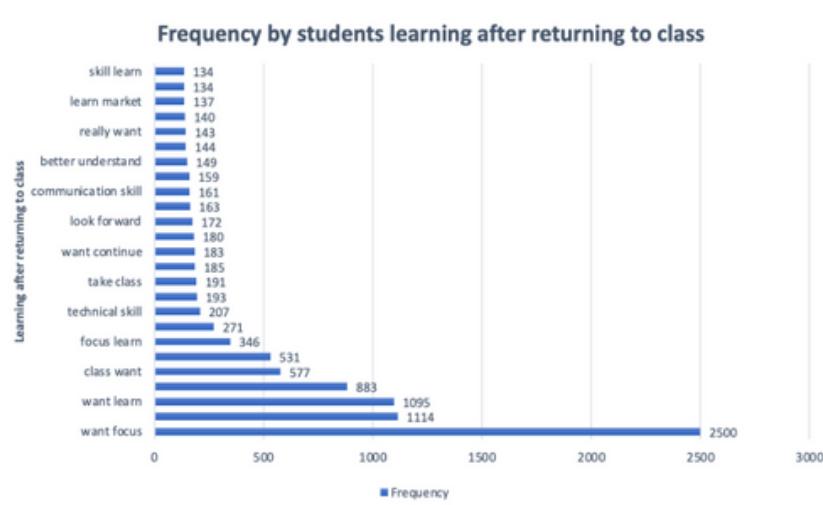
- The themes that we found : improve class room activities, activities well prepared, activities helped, prepared well co-op, recent cooperative education, etc.
- The most frequent words used : classroom activities, coop experience, think classroom, activities prepared, feel like. The frequency of the themes is shown in the above bar plot.
- As per the student's perspective, they think positive about the classroom activities, the course and the professors; as per the sentiment analysis 90% of the student's response is positive while 10% distribution is neutral or negative

SENTIMENT ANALYSIS IN EMPLOYERS' PERSPECTIVE

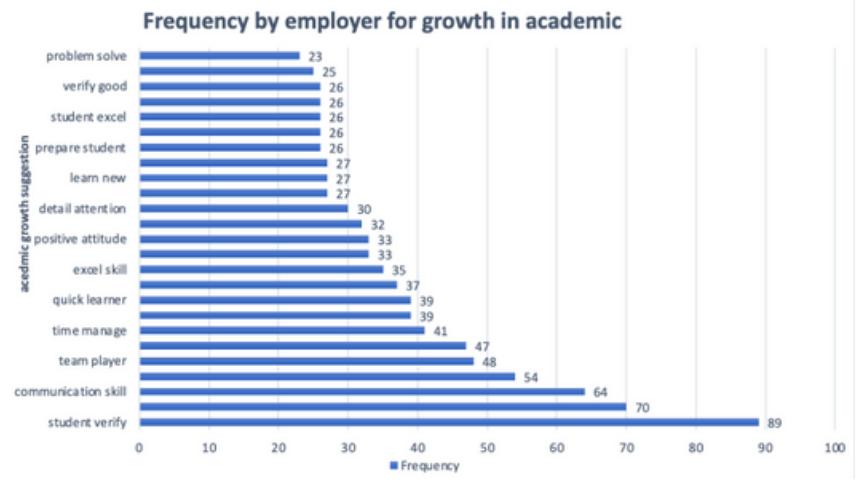


- The themes that we find : coop experience, communication skills, public speaking, well prepared, excel skills, course work, time management, data analytics, skill set, etc.
 - The most frequent words used : academic preparation, well prepared, public speaking, communication skills, project management, coop experience; the frequency distribution of the themes is shown in the above bar plot.
 - As per the employer's perspective , almost 70% of the responses were about no changes, hence majority of the response resulted neutral. The sentiment analysis distribution is shown in the pie chart above for the reference.

LEARNING AND GROWTH LANGUAGES



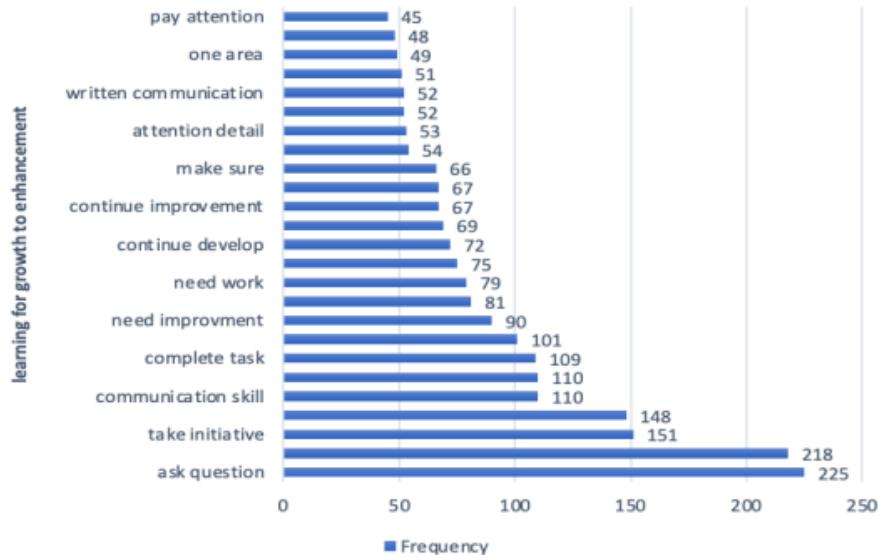
After returning to class, the students for learning and growth should mostly focus on technical skills and focused their learning to learn market-based skills which can further help them to build good communication skills and mainly focus on the determined areas which they really want to improve for their overall growth. The frequency graph above shows that students for the learning should be focused more to develop technical skill learning and a better understanding of the concept for their development.



According to the employer frequency, the growth in academics for the students is mainly communication skills, good team player, time management skills, quick learning, positive attitude, and more. As per the employer's suggestion for the growth language for a student mainly depends on detailing parts and excelling in the skills to become a quick learner which is required for learning and growth in academics.

LEARNING AND GROWTH LANGUAGES

Frequency by employer suggestion for learning to growth



As per the learning for growth to enhancement, the employer wants the students to ask questions, take the initiative to do tasks, and continually improve and develop in the areas of learning in detail to complete the required tasks. The growth enhancement as per the employer can be achieved if the student focuses on one area of detailed tasks which helps them to be proficient in the particular area in which they want to excel towards.

For learning after returning to class the most negative sentiment theme is related to professional career building rather than focusing on minors or majors associated with the student's degree plan. For academic growth suggestions, the most positive sentiment theme associated with the employer data is to go with the industry trends do certifications and excel in group activities that contribute to projects that can help the student to match up the development skills needed. For Learning for growth to enhancement, the most positive sentiment theme as per the employer data is the communication skill and asking self-driven in-depth questions which helps the students to grow their knowledge base.



THE CHANGE IN GOALS OF STUDENTS AFTER CO-OP PROGRAM

Co-op student in respective majors

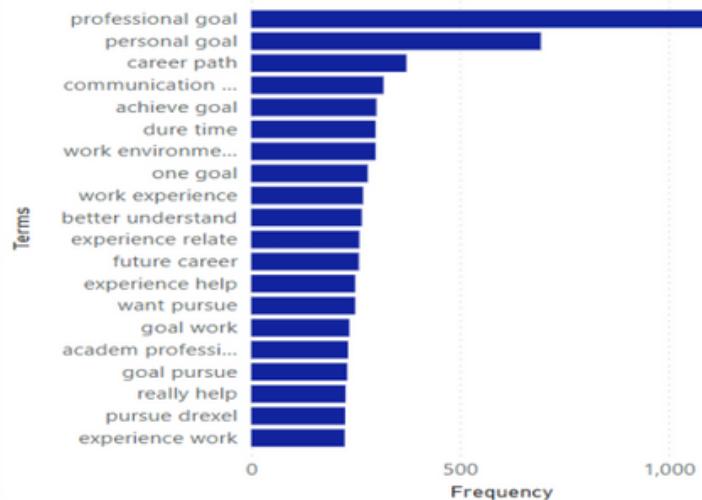
Companies ● comcast ● jp morgan ● vanguard



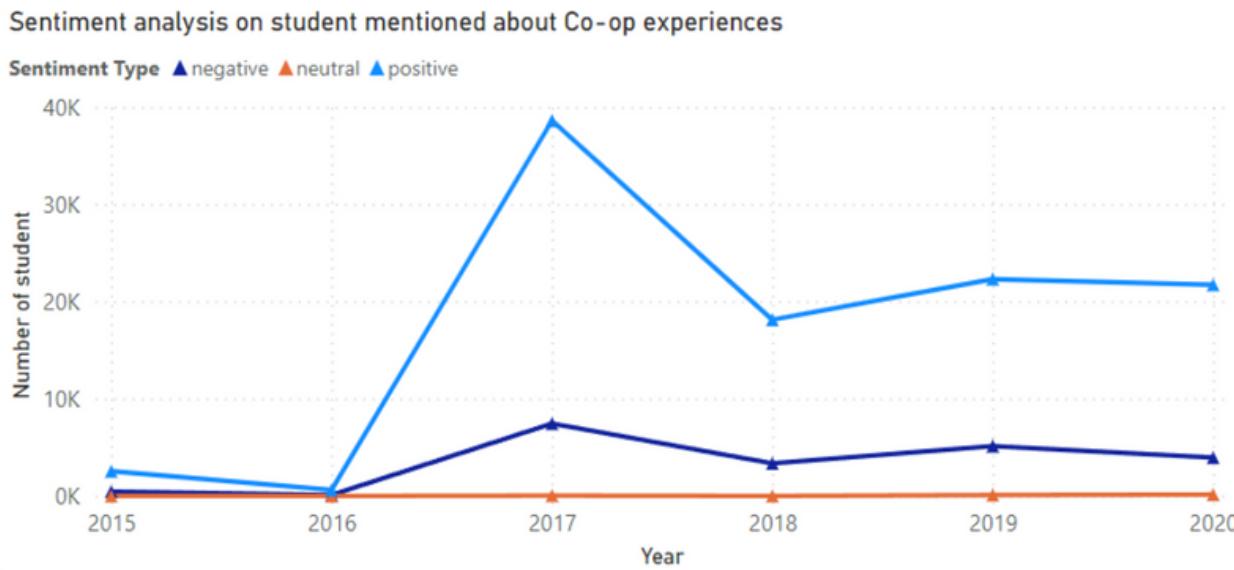
According to this analysis, finance and marketing students worked for Comcast and JP Morgan. The majority of finance students work at JP Morgan, while the marketing students mostly work at Comcast. The overall proportion of Drexel student co-op at Comcast. Prior to 2020, there were more active co-op terms in the Fall/Winter and Spring/Summer. After 2020, the summer work term was extended.

Relating to co-op experiences, students expect to improve their professional goal, personal goal, career path, communication skills, achievement, work experience, and future career as a result of this frequency analysis.

Frequency by student goals



THE CHANGE IN GOALS OF STUDENTS AFTER CO-OP PROGRAM



In recent years, students expressed positives about their co-op experiences. According to our finding, co-op leads to many way of student goals. In this sentiment analysis, 2018 onwards has significant improvement of student experienced in coop and almost double the trends. Student share their positive experiences in following snapshot:

"I was able to successfully build upon my leadership role in making an influence in peoples life and making life easier for my users to update and input valuable information. This was one way in which my co-op experience here relates to my professional goal."

"I was able to learn more about the field I'm interested in while also developing myself in ways that I don't think other jobs would have allowed me to.

"I am truly grateful for this opportunity and would strongly recommend this job and position to anyone else interested in learning more about marketing and leadership.."

THE CHANGE IN GOALS OF STUDENTS AFTER CO-OP PROGRAM



Some of the negative experienced in their co-op mentioned as following:

"he/she was part of a North America marketing organization at a large tech company but the environment is something he/she very much enjoyed and has now narrowed my search for full time positions".

"this co-op was a good indicator of what I am not looking for. This was geared towards customers and as an intern I had none, so I often felt bored and lost."

"I faced many challenges when working at this coop. It required a variety and a mixture of skills. Previously had no knowledge of supply chain management before starting this coop."