Parents, Teachers

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Problem Statement

When we talk about education for children, there are two groups of people play very important roles, parents and teachers. When the world is changing, roles and expectations of them might be different than before. Especially we experienced covid 19, parents and teachers' emotion might face challenge. As a data scientist at BetterFuture company, I would explore their concerns and interests through social media, provide suggestions to company's goal.

Parent and Teacher

Some people say that in the past, when a child failed tests or did something bad, parents would yelled at their child, but now, some parents might turn to teachers, yelling the same sentence, What is wrong with you.

Data Collection:Parenting and Teachers

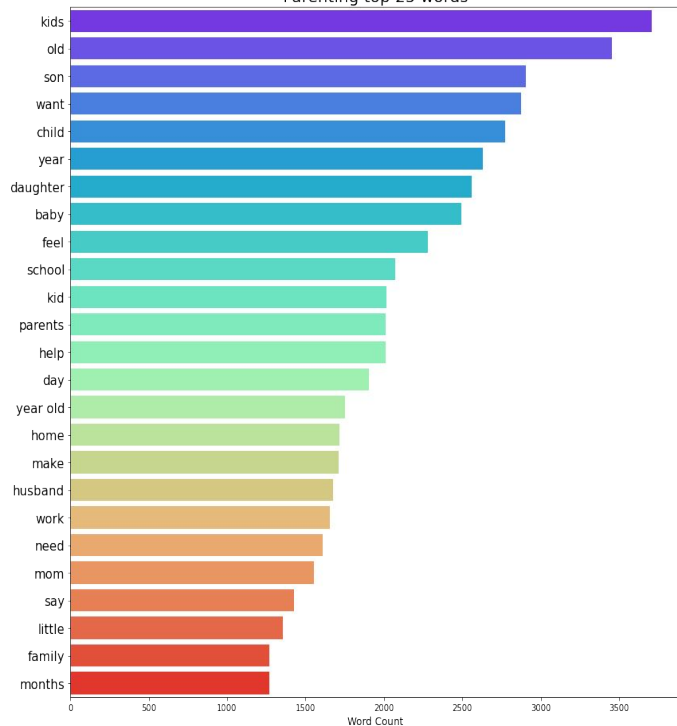Scraped data from parenting and teachers group from Reddit
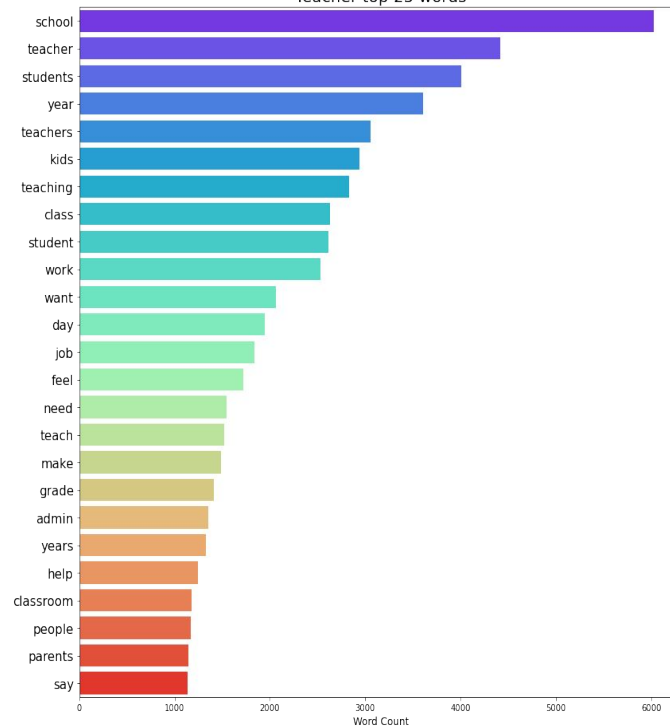
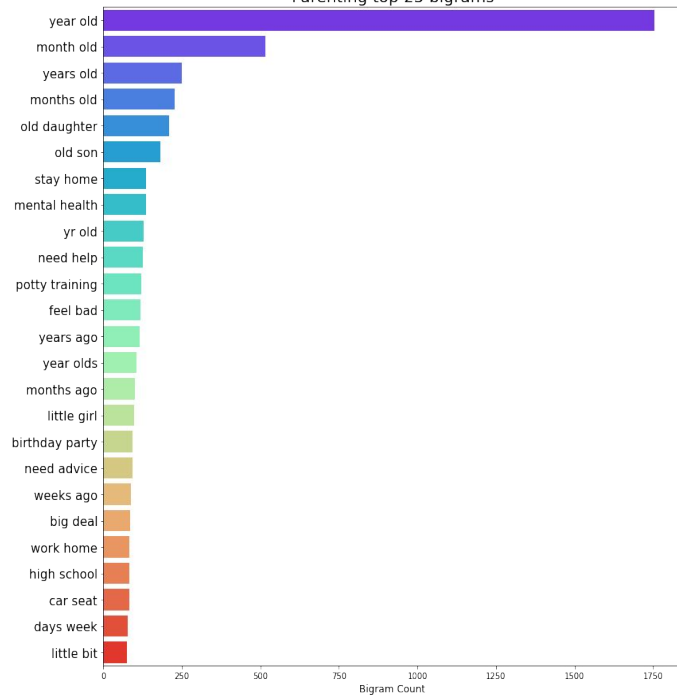# Content analysis NLP

Parenting top 25 words

Teacher top 25 words
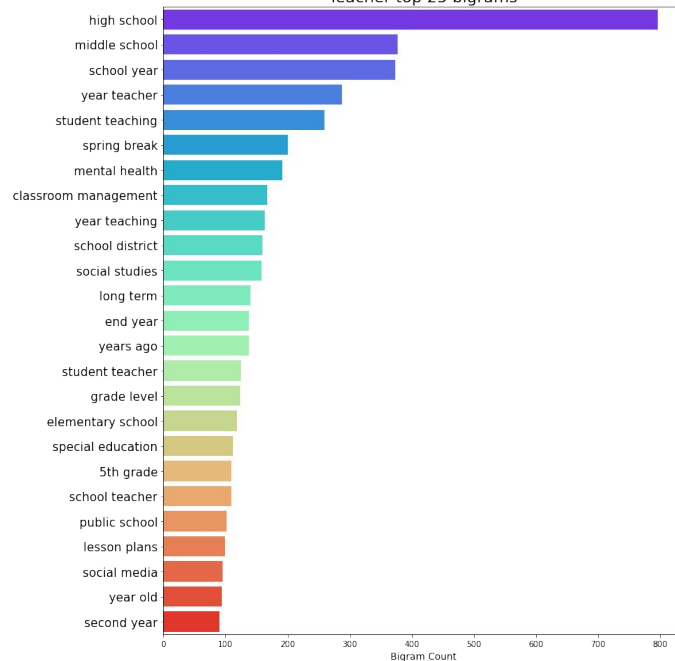
Content analysis

Top bigrams comparison

Parenting top 25 bigrams

Bigram	
year old	
month old	
years old	
months old	
old daughter	
old son	
stay home	
mental health	
yr old	
need help	
potty training	
feel bad	
years ago	
year olds	
months ago	
little girl	
birthday party	
need advice	
weeks ago	
big deal	
work home	
high school	
car seat	
days week	
little bit	

Bigram Count

Teacher top 25 bigrams

Bigram	
high school	
middle school	
school year	
year teacher	
student teaching	
spring break	
mental health	
classroom management	
year teaching	
school district	
social studies	
long term	
end year	
years ago	
student teacher	
grade level	
elementary school	
special education	
5th grade	
school teacher	
public school	
lesson plans	
social media	
year old	
second year	

Bigram Count

Content analysis
Top trigram comparison

Parenting top 25 trigrams

Trigram	
year old daughter	
year old son	
year old boy	
12 year old	
13 year old	
year old girl	
18 month old	
long story short	
feel spirit community	
report feel spirit	
parenting standards report	
longer original topic	
help parenting standards	
direct result rule	
community help parenting	
community direct result	
questions rely community	
rely community help	
rule simply larger	
result rule simply	
larger longer original	
simply larger longer	
spirit community direct	
standards report feel	
stay home mom	

Trigram Count

Teacher top 25 trigrams

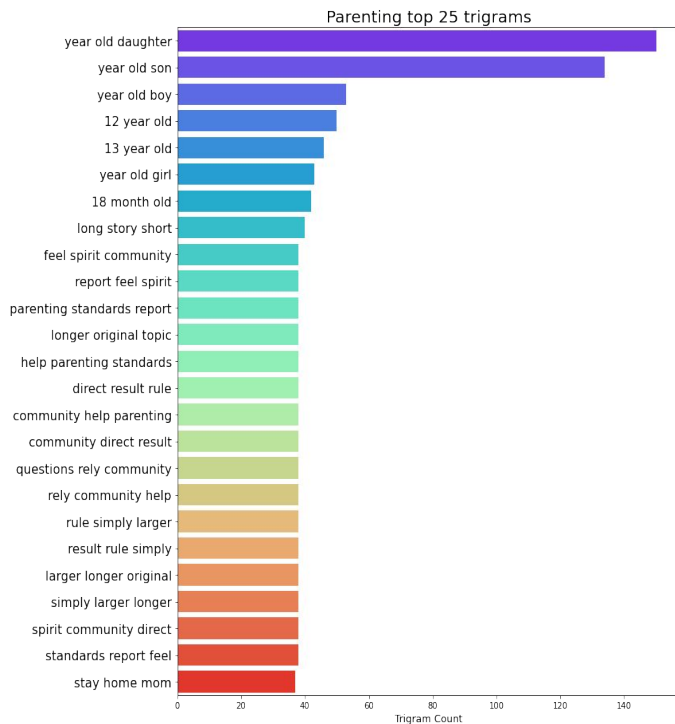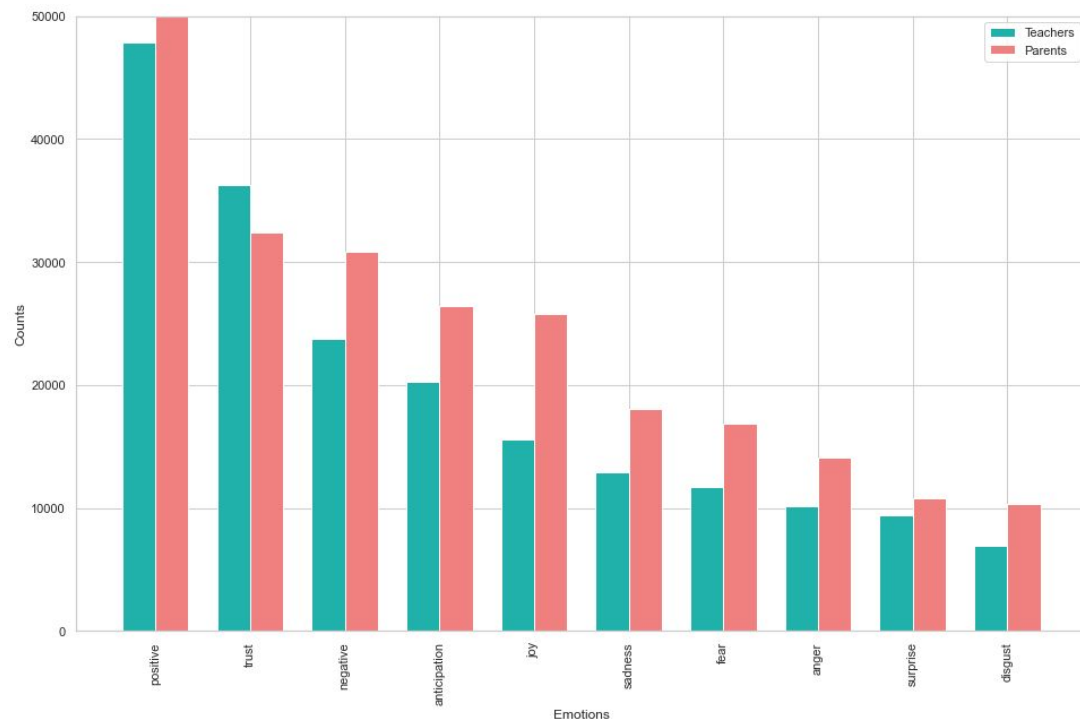| Trigram	
teach high school	
long term sub	
end school year	
teach middle school	
high school teacher	
middle high school	
teaching high school	
long story short	
high school math	
social studies teacher	
second year teacher	
high school students	
year high school	
week spring break	
high school level	
school high school	
high school english	
day spring break	
common core math	
second year teaching	
special education teacher	
mental health issues	
middle school teacher	
high school teachers	
teaching middle school	

Trigram Count

Sentiment Analysis

Emotions

Modeling

CountVectorizer and LogisticRegression	0.959	0.903
CountVectorizer and RandomForestClassifie	0.996	0.896
TfidfVectorizer and LogisticRegression	0.963	0.910
TfidfVectorizer and RandomForestClassifier	0,996	0,890
CountVectorizer and MultinomialNB	0.925	0.896
TfidfVectorizer and MultinomialNB	0.938	0.902
CountVectorizer and Keras	0.993	0.894

App Design Idea

Provide different service and support to parents and teachers based on their input.

Conclusion and future work

- Parents and teachers are doing OK, they do have different concerns, need different support.
- Implement an APP to provide appropriate support based on user's input
- Compare the data with data from 3 years ago, to see the impact of Covid 19
- Would love to conduct a similar analysis on different language in different countries to see if there are culture difference, and explore language translation

Thank you!