Lesson Plan: Build a Mood2Emoji App (Ages 12-16)

Duration: 60 Minutes

Topic: Introduction to Text Classification and Sentiment Detection

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Lesson Goals

- Understand what 'sentiment' means in text.
- Learn how to use Python and TextBlob for simple mood detection.
- Build and test a kid-safe app using Streamlit.
- Encourage responsible, positive online communication.

Topics Introduced

1. Sentiment Analysis - How computers detect emotions in text.
2. Polarity - Positive, negative, or neutral scores.
3. TextBlob Library - A beginner-friendly NLP toolkit.
4. Streamlit - Turning Python scripts into interactive web apps.
5. Ethical Coding - Keeping apps kid-safe and positive.

Lesson Breakdown (60 Minutes)

0-10 min | Introduction | Discuss emotional sentences like 'I love school!' vs 'I feel tired.'

10-25 min | Explain Sentiment & Tools | Introduce TextBlob, explain polarity and how it measures emotions.

25-40 min | Code Together | Walk through the app.py file - typing, testing, and running locally.

40-50 min | Experiment Time | Students try different sentences and guess results.

50-55 min | Safety Check | Discuss how the app blocks bad words and why that matters.

55-60 min | Wrap-Up | Recap what sentiment analysis is and how we made the app interactive.

Student Activities

- Predict and test moods for their own sentences.
- Add their own positive and negative words in code.
- Draw a flowchart of how the app processes input to emoji output.

Learning Outcomes

By the end of the session, students will:

- Understand mood detection in text.
- Use TextBlob to analyze text sentiment.
- Run and modify a Streamlit app.
- Appreciate building positive, safe technology.

Materials Needed

- Laptop with Python 3.9+
- Internet connection (Streamlit Cloud)
- Starter files or GitHub repo

Assessment / Reflection

- Ask students to explain what 'polarity' means.
- Encourage real-life examples: filtering comments, feedback tools.
- Reflect on creating kind and responsible apps.

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