Notes for teachers

At a glance

Impulsive, socially anxious, uncompromising - these are some of the characteristics you may recognise in the teenagers you know. Scientists at the University of Oxford are researching into changes that take place in the teenage brain that may explain this change in behaviour.

In this activity students read a psychology research paper that uses an experimental method to research social anxiety in adolescents. They will evaluate the method and draw conclusion before explaining them in terms of changes in the adolescent brain.

Learning Outcomes

- Students learn how the brain changes during adolescence
- Students evaluate an experimental procedure
- Students explain how the results from psychology research is used

Each student will need

- Copy of student worksheet page 1-3
- Access to the research paper (either as a paper based copy to share in pairs or digitally).

Possible Lesson Activities

1. Starter activity
   - Discuss with the class any behavioural changes they have noticed in others or experienced themselves as they are going through adolescence (ages 12-25). Ask them when they think the changes were most extreme. They will probably consider this to be early adolescence.

http://www.oxfordsparks.ox.ac.uk/content/brain-development-teenagers
• Play the animation ‘Brain Development in Teenagers’. Discuss with the class what changes are happening in the adolescent brain. Encourage students to ask any questions of things they don’t understand or want to discuss further.
• Tell them that in this lesson they will be looking at the study mentioned in the animation in more detail.

2. Main activity: Studying the study
   • Give each group of students a copy of page 1 of the student worksheet and ask them to read through it.
   • Play the students the video on eye-tracking from the weblink below. This will introduce them to the technology used in the research.
   • Give each student a copy of page 2 and access to the research paper. Note that this is an abridged version of the actual research study carried out by academics at the University of Oxford. Students need to evaluate the study and write their responses into the table on page 2.
   • Supply students with page 3, which are possible answers, and allow them to self-assess their work.
   • Students then complete tasks 2 and 3 on page 1 of the student worksheet.

3. Plenary
   • Discuss with the class their thoughts about the study, in particular the validity of the method.
   • Ask students to share their answers to tasks 2 and 3.
   - Task 2: Participants higher in social anxiety were more likely to interpret scenes more negatively and less positively. The areas of their brain that are involved in emotional responses are developed, however the parts that are involved in controlling more rational thought are still developing. They are making biased judgements on social interactions which are biased towards emotions rather than rational thought.
   Older adolescents were less likely to interpret scenes as being negative. This is because their brain is more developed and the imbalance in development in different areas of the brain is less pronounced at this age.
   - Task 3: Adolescents that are more socially anxious may be more likely to develop further problems as adults. Research into this area is important in preventing the development of mental health problems.
   It could help develop target treatment approaches to social anxiety such as Cognitive Behavioural Therapy.

Weblinks

http://www.oxfordsparks.ox.ac.uk/content/brain-development-teenagers
Brain Development in Teenagers animation
Further information on changes in the teenage brain
https://www.youtube.com/watch?v=2Y2iNm9K09s
Video that explains how eye tracking is used in psychology research

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