UNIT A: LESSON 7

LEARNING TARGETS

INSTRUCTIONS FOR TEACHERS:
- Refer students to the standards and objectives.
- Review the standards and objectives with students one at a time.
- At the end of the lesson, ask students what they did in class to meet the standards.

INSTRUCTIONS FOR STUDENTS:
Listen as your teacher reviews the standards and objectives. Your teacher will call on an individual or pair to explain what they mean.

Learning Target:
I can determine the main ideas and supporting details in the article “The Digital Revolution and Adolescent Brain Evolution.”

Learning Target:
I can analyze the basic structure of a complex sentence.

determine – decide
main – central or most important
supporting details – helping ideas
article – a short text in a newspaper or magazine
analyze – study something and explain it
structure – the way parts of something are joined together
complex – something that has many different parts
ACQUIRING AND USING VOCABULARY

INSTRUCTIONS FOR TEACHERS:

- Review student instructions.
- Familiarize students with their glossary. It is located in Appendix A (Glossary; labeled “Appendix: Glossary” in the student version). Tell students to use the glossary throughout the lesson.
- Pre-teach the vocabulary selected for extended instruction, provided as word cards in Appendix B (Teacher Resources). This vocabulary is abstract and critical to understanding the text.

INSTRUCTIONS FOR STUDENTS:

Your teacher will pre-teach several key words. Use your glossary for the rest of the lesson to find meanings for words you don’t know. Words that are **bolded** in the text and word banks can be found in the glossary. The glossary is located in the Appendix at the end of the lesson.
THINKING LOG

INSTRUCTIONS FOR TEACHERS:
• Read the guiding question and text aloud to students, modeling appropriate pace and intonation.
• During the read-aloud, define words and phrases in context that students are unlikely to know, drawing definitions from the glossary when you can. Translations, examples, gestures, and visuals also help.
• Ask students to read the text on their own and work with a partner to answer supplementary questions.
• Ask students to use their glossary to help them with word meanings.
• Call on pairs to answer the supplementary questions.
• Discuss the guiding question(s) as a group and then have students write the answer in their student chart.

INSTRUCTIONS FOR STUDENTS:
Your teacher will ask you a guiding question that you will think about as your teacher reads the text aloud to you. As your teacher reads the text aloud, listen and follow along in your text. After the text has been read aloud, work with a partner to reread the text and answer the supplementary questions. Use your glossary to help you. Your teacher will review the answers with the class. You will then discuss the guiding question(s) with your teacher and the class. Finally, you will complete a written response to the guiding question(s).

GUIDING QUESTION: Why is the social brain so important for humans? Why might video games threaten the development of social skills humans need for survival?

THE DIGITAL REVOLUTION AND ADOLESCENT BRAIN EVOLUTION

EXCERPT 5: DIGITAL REVOLUTION – SOCIAL

The human brain is a social brain. Our ability to gauge the moods and intentions of others, to detect the truth or falsehood of their communications, to discern friend from foe, and to form alliances is among its most complex and important tasks. These skills are of premier importance to fulfill our biological imperatives of staying alive (through the protection of the group) and reproducing or having children. From this perspective, it is no wonder that so much of our brain is dedicated to social cognition.

The central hub of circuitry related to social skills is the late-maturing, highly plastic prefrontal cortex. Like any complex skills, mastery requires lots of practice. Much of the discernment relies on exquisitely subtle detection of nonverbal cues, such as
slight changes in eye gaze, millisecond differences in speech timing, synchrony of response to shared environmental stimuli, breathing patterns, body posture, touch, odors, and so forth. Will the increasing reliance on digital social interactions hinder exposure to the "real-world" experiences necessary to master these most important skills?

**WORD BANK:**

<table>
<thead>
<tr>
<th>alive</th>
<th>environmental</th>
<th>interact</th>
<th>social skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>alliances</td>
<td>eye gaze</td>
<td>lying</td>
<td>speech</td>
</tr>
<tr>
<td>body posture</td>
<td>face-to-face</td>
<td>moods</td>
<td>survive</td>
</tr>
<tr>
<td>breathe</td>
<td>foe</td>
<td>odor</td>
<td>truth</td>
</tr>
<tr>
<td>cues</td>
<td>friend</td>
<td>intentions</td>
<td>reproduce</td>
</tr>
<tr>
<td>detection</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

**SUPPLEMENTARY QUESTIONS:**

1. *What is one of the most complex and important tasks of the brain?*
   One of the most important tasks of the brain is using social skills.

2. *What four social tasks does the author mention?*
   The author mentions the following four social tasks:
   - A. our ability to notice the moods and intentions of other people (what other people are feeling or thinking);
   - B. our ability to tell whether someone is telling the truth or lying
   - C. our ability to tell if someone is friend or foe (enemy)
   - D. our ability to form alliances (be partners) with other people

3. *Why is the social brain so important?*
   The social brain is so important because social skills help us reproduce (have children) and stay alive.

4. *What is the central hub (command center) of the brain for social skills?*
   The central hub for social skills is the plastic prefrontal cortex.

5. *Does the prefrontal cortex mature early or late?*
   It matures late (early/late).

6. *Does having complex social skills take practice?*
   Yes, it does (Yes, it does/No, it doesn’t).

7. *What do complex social skills rely on?*
Social skills rely on detection of, or noticing, nonverbal cues, or signals.

8. What are some examples of nonverbal cues?
Examples of nonverbal cues include:
   A. slight changes in eye gaze (position of eyes)
   B. small differences in speech timing
   C. how people react to shared environmental stimuli
   D. how people breathe
   E. people’s body posture (how a person holds his or her body)
   F. touch
   G. odor (smell)

9. The author asks if so much reliance on social interaction through video games will prevent people from experiencing “real-world” experiences with people. What does the author worry about?
   The author worries about people who interact mainly through video games instead of face-to-face. These people may not develop the important and complex social skills they need to survive.

RESPONSE TO GUIDING QUESTION(S):
Why is the social brain so important for humans? Why might video games threaten the development of social skills humans need for survival?

Suggested Response: One of the most important tasks of the brain is using social skills. Our social skills give us the ability to notice the moods and intentions of other people, to tell whether someone is telling the truth or not, to tell if someone is friend or foe, and to form alliances, or be partners, with other people. These skills help us stay alive and reproduce. Social skills are learned by interacting with other people face-to-face. People who interact with other people mainly through video games may not develop the important and complex social skills they need to survive.
## INSTRUCTIONS FOR TEACHERS:
- Review student instructions.

## INSTRUCTIONS FOR STUDENTS:
Work with a partner. Use your neurologist notebook to write down key, or important, information from the text. You will write down main ideas and some details, or specific information, about each main idea. You can use information from your Thinking Log. Some information is already filled in for you.

### WORD BANK:
- addictive
- breathing
- cognition
- complex
- digital
- enemy
- eye
- feelings
- friend
- important
- increasing
- master
- posture
- practice
- social skills
- subtle
- survive
- truth
- video games

### Summary from yesterday:
The amount of time teens spend on **video games** is **increasing**. These **video games** may be **addictive**.

### Main idea:
Social cognition is one of the brain’s most **important** tasks.

### Supporting details:
We use **social** cognition to understand other people’s **feelings**, whether they are telling the **truth**, and whether they are a **friend** or **enemy**. These are important **skills** that help us **survive**.

### Main idea:
We must **practice** social cognition **skills** to **master** them.

### Supporting details:
Social cognition **skills** are very **complex**. These skills include noticing many **subtle**, or small, things like eye gaze, **breathing patterns**, and **body posture**. These skills require, or need, a lot of **practice** to **master**.

### Concluding question:
Can we spend too much time playing **video games** and using **digital** devices to **master** social **skills**?
FUNCTIONAL ANALYSIS

INSTRUCTIONS FOR TEACHERS:
- Review student instructions for functional analysis with the whole class.
- Complete the functional analysis with the whole class.
- Have students work with a partner to rewrite the sentence in their own words.

INSTRUCTIONS FOR STUDENTS:
Work with your class to analyze an important sentence(s) from the text.
- Every sentence has someone or something that does something. First you determine this who or what.
- Every sentence has something that they do or did. Figure that part out next. Now you have the most important parts of the sentence in place.
- Then you will figure out what they did the action to or for.
- Finally, you will write the descriptive details.
- Write your answers in the spaces below.
- When you are done, write the sentence again in your own words.

You may want to use definitions from the glossed text in the sections above.

Functional Analysis:

Our ability to gauge the moods and intentions of others, to detect the truth or falsehood of their communications, to discern friend from foe, and to form alliances is among its most complex and important tasks.

What: Our ability

Detail (To What): to gauge the moods and intentions of others

Detail (To What): to detect the truth or falsehood of their communications

Detail (To What): to discern friend from foe

Detail (To What): and to form alliances

What Happened (Action): is

What: among its [the brain’s] most complex and important tasks

<table>
<thead>
<tr>
<th>What the sentence says:</th>
<th>My own words:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Our ability</td>
<td></td>
</tr>
<tr>
<td>to gauge the moods and intentions of others</td>
<td>to tell</td>
</tr>
<tr>
<td>to detect the truth or falsehood of their</td>
<td>to tell</td>
</tr>
<tr>
<td>communications</td>
<td></td>
</tr>
<tr>
<td>to discern friend from foe</td>
<td>to tell ____________________________</td>
</tr>
<tr>
<td>---------------------------</td>
<td>-------------------------------------</td>
</tr>
<tr>
<td>and to form alliances</td>
<td>and to ____________________________</td>
</tr>
<tr>
<td>is</td>
<td>is</td>
</tr>
<tr>
<td>among its most complex and important tasks</td>
<td>the brain’s ____________________________</td>
</tr>
</tbody>
</table>

Write the sentence in your own words and then explain it to your partner.

____________________________________________________________________________

____________________________________________________________________________

____________________________________________________________________________

____________________________________________________________________________

____________________________________________________________________________

____________________________________________________________________________

and to ____________________________

is _________________________________________________________________________

___________________________

______________________________________________ .
EXIT TICKET

INSTRUCTIONS FOR TEACHERS:
• Review student instructions with the whole class.

INSTRUCTIONS FOR STUDENTS:
This graphic organizer will help you keep track of information about the brain for all of the readings. Each day you will write down new information from each reading. Today we will write about social cognition skills.
• First, write what we need social cognition skills for.
• Next, the types of social cognition skills.
• Then write what we need to do to develop social cognition skills.
• Finally, write why it might dangerous for teens to spend too much time using digital devices (so what?).

WORD BANK:
breathing, body posture, eye gaze, feelings, friend, practice, small, truth

<table>
<thead>
<tr>
<th>What we need social cognition for</th>
<th>We need social cognition to understand other people’s feelings, whether they are telling the truth, and whether they are our friend.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Types of social cognition skills</td>
<td>Social cognition skills including noticing small things, like eye gaze, breathing, and body posture.</td>
</tr>
<tr>
<td>What we need to do</td>
<td>We must practice.</td>
</tr>
<tr>
<td>So what?</td>
<td>[Write why it might be dangerous for teens to spend too much time using digital devices:]</td>
</tr>
</tbody>
</table>
Appendix A: Glossary

<table>
<thead>
<tr>
<th>Word</th>
<th>Definition</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>addictive</td>
<td>something that causes addiction (you cannot stop using it)</td>
<td>For some people drinking alcohol is addictive.</td>
</tr>
<tr>
<td>cognition</td>
<td>how the brain processes, or understands information</td>
<td>From this perspective, it is no wonder that so much of our brain is dedicated to social cognition.</td>
</tr>
<tr>
<td>communication</td>
<td>how we share messages, information, or ideas (like talking)</td>
<td>Our ability to detect truth or lies in communication is a complex and important task.</td>
</tr>
<tr>
<td>complex</td>
<td>not simple</td>
<td>Our ability to gauge the moods and intentions of others, to detect the truth or falsehood of their communications, to discern friend from foe, and to form alliances is among its most complex and important tasks.</td>
</tr>
<tr>
<td>detect</td>
<td>discover or notice</td>
<td>Our ability to detect truth or lies in communication is a complex and important task.</td>
</tr>
<tr>
<td>(detection)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>digital</td>
<td>electronic</td>
<td>Will the increasing reliance on digital social interactions hinder exposure to the &quot;real-world&quot; experiences necessary to master these most important skills?</td>
</tr>
<tr>
<td>discern</td>
<td>tell apart</td>
<td>Our ability to discern friend from foe is a complex and important task.</td>
</tr>
<tr>
<td>falsehood</td>
<td>Lie</td>
<td>Our ability to detect the truth or falsehood of what people say is a complex and important task.</td>
</tr>
<tr>
<td>hinder</td>
<td>stop something, or get in the way of it happening</td>
<td>Will the increasing reliance on digital social interactions hinder exposure to the &quot;real-world&quot; experiences necessary to master these most important skills?</td>
</tr>
<tr>
<td>Word</td>
<td>Definition</td>
<td>Example</td>
</tr>
<tr>
<td>-------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>intention</td>
<td>motive; what you are thinking or planning regardless of your actions</td>
<td>Our ability to gauge the moods and intentions of others is a complex and important task.</td>
</tr>
<tr>
<td>master</td>
<td>learn something very well or perfectly</td>
<td>Will the increasing reliance on digital social interactions hinder exposure to the &quot;real-world&quot; experiences necessary to master these most important skills?</td>
</tr>
<tr>
<td>mood</td>
<td>a temporary feeling or emotion</td>
<td>Our ability to gauge the moods and intentions of others is a complex and important task.</td>
</tr>
<tr>
<td>nonverbal cue</td>
<td>a gesture or action that gives information</td>
<td>Much of the discernment relies on detection of nonverbal cues, such as slight changes in eye gaze, breathing patterns, body posture, and so forth.</td>
</tr>
<tr>
<td>odor</td>
<td>a smell</td>
<td>Much of the discernment relies on detection of nonverbal cues, such as body posture, touch, odors, and so forth.</td>
</tr>
<tr>
<td>posture</td>
<td>the way you hold or carry your body</td>
<td>Much of the discernment relies on detection of nonverbal cues, such as slight changes in eye gaze, breathing patterns, body posture, and so forth.</td>
</tr>
<tr>
<td>require</td>
<td>Need</td>
<td>Developing social skills requires lots of practice.</td>
</tr>
<tr>
<td>rely (reliance)</td>
<td>depend on something</td>
<td>The increasing reliance on digital social interactions could hinder exposure to the &quot;real-world&quot; experiences.</td>
</tr>
<tr>
<td>social cognition*</td>
<td>how the brain processes, or understands, information about other people and social situations, or situations where people are with each other</td>
<td>From this perspective, it is no wonder that so much of our brain is dedicated to social cognition.</td>
</tr>
<tr>
<td>social skill</td>
<td>how well you interact with other people</td>
<td>Developing social skills requires lots of practice.</td>
</tr>
<tr>
<td>Word</td>
<td>Definition</td>
<td>Example</td>
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<tr>
<td>------</td>
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<td>---------</td>
</tr>
<tr>
<td>subtle</td>
<td>not obvious; difficult to see or notice</td>
<td>Much of the discernment relies on exquisitely subtle detection of nonverbal cues, such as slight changes in eye gaze, millisecond differences in speech timing, synchrony of response to shared environmental stimuli, breathing patterns, body posture, touch, odors, and so forth.</td>
</tr>
<tr>
<td>survive</td>
<td>continue to live</td>
<td>These people may not develop the important and complex social skills they need to survive.</td>
</tr>
<tr>
<td>task</td>
<td>a job; something you need to get done</td>
<td>Our ability to detect truth or lies in communication is a complex and important task.</td>
</tr>
</tbody>
</table>

*Vocabulary from the Expeditionary Learning lessons. Italicized words are from the Academic Word List.
Appendix B: Teacher Resources

<table>
<thead>
<tr>
<th>social cognition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Look at the picture. Turn to a partner and say what you think is happening in the picture.</td>
</tr>
<tr>
<td>We are able to determine, or tell, what is happening with other people because of <strong>social cognition</strong>.</td>
</tr>
<tr>
<td><strong>Social cognition</strong> is how the brain processes, or understands, information about other people and social situations, or situations where people are with each other.</td>
</tr>
<tr>
<td>Partner talk: Think about an interaction, or dealing with another person today. What happened and how did you use <strong>social cognition</strong>?</td>
</tr>
</tbody>
</table>