



Overview

This article explains colour-blindness, a condition that is quite widespread but that many people are unaware of. The text also provides an insight into what the world is like for those who are colour-blind.

Note that some of your students could be colour-blind themselves and may discover this for the first time when reading the article.

The article is closely linked to the story “No Big Deal”, which in a lighthearted way, deals with some of the realities of living with colour-blindness. The poem “If” in this journal explores different ways of looking at colours.

This text requires students to “confidently use a range of processing and comprehension strategies to make meaning from and think critically about” text (from *The Literacy Learning Progressions*, page 14).

There is a PDF of the text and an audio version as an MP3 file at www.juniorjournal.tki.org.nz

Related texts

Texts that link to daily living: “Rōngōā Māori” (JJ 48); “No More Warts” (JJ 49)

Texts about managing challenges related to vision: *Guide Dogs* (Ready to Read, Purple); “No Big Deal” (JJ 51)

Text characteristics

Key text characteristics relating to the reading standard for after three years at school are shown in the boxes below.

A mix of explicit and implicit content within the text and visual language features that requires students to make connections between ideas in the text and their prior knowledge in order to make inferences, for example, about the challenges a colour-blind person might face

The context of colour-blindness, which is likely to be unfamiliar to most students

Some problems of being colour-blind

It's not hard to live as a colour-blind person. Most of the time, we don't even need to think about the colours around us. But some things can be tricky to deal with.

A colour-blind person might:

- not notice that they have put on socks that are different colours
- mix up the pieces in a board game
- mix up red apples and green apples or not be able to tell when a tomato is ripe ... until they bite into it!

Can you think of anything else that a colour-blind person might have trouble with?

A variety of sentence structures, including complex sentences, so that students are required to notice and use linking words and phrases (such as, “but”, “If”, “because”, “instead”, “All other”, “For example”) and punctuation (commas, dashes, and a colon) to clarify the links between ideas

Ideas and information organised in paragraphs

Some unfamiliar words and phrases, including subject-specific vocabulary, the meaning of which is supported by the context, sentence structure, definitions, and/or visual language features

Visual language features, including subheadings, photographs, and illustrations that are clearly explained and linked to the body text

English (Reading)

Level 2 – Ideas: Show some understanding of ideas within, across, and beyond texts.

Level 2 – Structure: Show some understanding of text structures.

Science

Level 2 – Participating and contributing: Explore and act on issues and questions that link their science learning to their daily living.

Select from and adapt the suggestions below according to your students' strengths, needs, and experiences – their culture, language, and identity (*Reading and Writing Standards for years 1–8*, Knowledge of the Learner, page 6).

Possible reading purposes

(What can the students expect to find out or think about as a result of reading this text?)

- To find out what it means to be colour-blind

Possible learning goals

(What opportunities does this text provide for students to learn more about how to “read, respond to, and think critically” about texts?)

- The students **ask questions** about aspects they are not sure of and look for answers in the text.
- They **make connections** between the text and illustrations to **locate and track** information.
- They **identify the main ideas** in the text about colour-blindness.
- They **monitor** their reading, and when something is unclear, they take action to solve the problem, for example, by rereading a sentence or looking for clues close by.

**Text and language features****Possible supporting strategies**

(These suggestions may be used before, during, or after reading in response to students' needs.)

Vocabulary

- Words that may be unfamiliar, including subject-specific words: “rainbow”, “indigo”, “violet”, “colour-blind”, “difference”, “accident”, “females”, “different”, “colour-blindness”, “unusual”, “instead”, “primary colours”, “example”, “tricky”
- Similar words that are used (or can be used) as nouns and verbs, or nouns and adjectives, for example: “green”, “greens”, “colour-blind”, “colour-blindness”, “type”, “primary”, “deal”, “trouble”.

Readers are able to use strategies for working out unfamiliar words only when they know most of the vocabulary in the text. For English language learners who need support with vocabulary, introduce and practise selected items before reading. See [ESOL Online: Vocabulary](#) for suggestions.

Prompt the students to remember the strategies they can use, often in combination, for example:

- when **decoding**:
 - recognising chunks or syllables within a word (“diff-er-ence”, “in-di-go”)
- when **working out word meanings**:
 - using the context of the sentence and surrounding sentences
 - looking for supporting information in the illustrations or visual language features
 - drawing on knowledge of syntax to clarify if a word is being used as a noun, verb, or adjective.

If students don't know the difference between “indigo” and “violet”, you could identify these colours for them on the diagram on page 25.

Have a dictionary available for students to confirm or clarify word meanings, but remind them that they can make a best attempt at a word and come back to it later. Have bilingual dictionaries available, where appropriate.

Specific knowledge

- Some awareness of colour-blindness
- Knowledge of primary colours and colour mixing.

Have students share any experiences or knowledge of colour-blindness. Many students will be unfamiliar with the condition, so it would be useful to read “No Big Deal” before this text.

If students are unfamiliar with the use of primary colours as the basis for colour mixing, they could build knowledge by experimenting with red, yellow, and blue paint to make other colours.

Text features

- Visual features, including subheadings, photographs, and illustrations (stylised images and charts, such as a rainbow, mixing colours, and a colour test)
- Within paragraphs, a lead sentence (often the first sentence) stating the main idea and other sentences with supporting information
- Sentence features including:
 - dashes to add information
 - connective words and phrases that clarify the link of ideas within and across sentences (“but”, “if”, “because”, “instead”, “All other”, “For example”)
 - colons to indicate a link with the following information.

Remind the students of the close link between the illustrations and the text. You may need to discuss the layout of the photographs on page 26 and explain the function of the diagrams on page 28.

Choose a section of text under a subheading and explore the organisation of ideas. Point out the link between the subheading (what they will find out in this section), the lead sentence in the paragraph (which states the main idea or answers the question in the subheading), and the supporting sentences with extra information or examples.

Select a sentence that links ideas, for example, “There are seven colours in a rainbow – red, orange, yellow, green, blue, indigo, violet – but some people see these colours differently because they are colour-blind.” Support the students to analyse the way the ideas are linked across the sentence by identifying the two ideas, the connectives, and the added information between the dashes.

Metacognition**HOW YOU CAN SUPPORT YOUR STUDENTS TO BE METACOGNITIVE**

Here are some ways you can build students' awareness of the processes and strategies they are using as they make meaning and think critically.

- *How did the questions you asked as we previewed the text help your reading?*
- *What helped you work out how to make sense of this sentence?*

Introducing the text

- Use your knowledge of your students to ensure that the introduction to the text is effective in activating their prior knowledge and providing appropriate support for a successful first reading.
- Ask the students to read the title and the caption underneath the rainbow image. Use the caption to introduce the concept of colour-blindness. Draw their attention to the rainbow diagram to help them visualise the limitations in the range of colour some people can see. They could cover first one side and then the other to help visualise the difference.
- Emphasise how common colour-blindness is and how easily it can be managed.
- Confirm this is an information text about colour-blindness, and ask the students to share any knowledge they have on the topic. If the students have read “No Big Deal”, they will have built up some background knowledge (and probably some questions).
- Have them look through the article, using the subheadings, illustrations, and photographs to predict what the article will tell them. Encourage them to share any questions they have.
- Ask the students to read page 25 and check if this answers any of their questions. Draw attention to the definition of colour-blindness in the second paragraph.
- Share the reading purpose and the learning goal(s).

Reading and discussing the text

Suggestions for ways that you can support the students to achieve the learning goals are in the right-hand column of the table below.

Select from and adapt the suggestions according to your students’ needs. These suggestions may apply to the first or a subsequent reading.

Encourage the students to read the whole text by themselves, intervening only if it’s clear a student needs help. There will be many opportunities to provide support with word-solving and comprehension on subsequent readings.

Student behaviours

Examples of what to look for and support as the students work towards achieving their learning goal(s). Note that much of the processing that students do at this level is “inside their heads” and may not be obvious until after they have read the text and you are discussing it as a group.

Deliberate acts of teaching

Examples of how you can support students as they work towards achieving their learning goal(s). Often this will involve individual students rather than the whole group.

The first reading

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| <ul style="list-style-type: none">• As the students reread page 25, they begin to visualise what it might be like to be colour-blind. (Keep in mind that any students who are colour-blind may not perceive the difference in the two sides of the rainbow illustration.) | <ul style="list-style-type: none">• Remind the students to think about their questions while they are reading. |
| <ul style="list-style-type: none">• On page 26, as students read the second section, they make connections between the different types of colour-blindness and the photographs at the bottom of the page. | <ul style="list-style-type: none">• Prompt the students to make links between the information in the text and the illustrations. |
| <ul style="list-style-type: none">• As the students read the diagram on page 28, they refer back to the text to clarify the connections between the “primary colours” and not seeing “red” to infer why the mixed colours might be hard to see. | <ul style="list-style-type: none">• If necessary, confirm the use of a colon to indicate the link between the text and the illustrations. |
| <ul style="list-style-type: none">• On page 29, students try out the colour blindness test and share their reactions. | <ul style="list-style-type: none">• Encourage the students to share their responses to the text. |
| <ul style="list-style-type: none">• On pages 30 and 31, the students make connections to their own lives and think about other things a colour-blind person might have problems seeing. | <ul style="list-style-type: none">• As they complete their reading, remind them to think about the author’s questions and any questions they still have. |

Discussing the text after the first reading

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| <ul style="list-style-type: none">• The students share their responses to the article, including the outcomes of the test image on page 29.• They think, pair, share their responses to the author’s questions.• The students use the subheadings and lead sentences within paragraphs to track the key points about what it means to be colour-blind.• The students share their ideas about why the author chose the title. | <ul style="list-style-type: none">• Encourage the students to share their responses to the text.• Remind them of the reading purpose. Have the students work in pairs to summarise a section of the text and then share their summaries with the group. You could record the summaries on a chart.• Prompt the students to think critically: <i>Why do you think the author called this “Living in a Colourful World”?</i> |
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Supporting metacognition

With support, the students reflect on their learning. They revisit the reading purpose and learning goal(s).

The students give an example of the visual information that helped them to clarify ideas.

The students identify a challenge in the text and explain how they solved it, for example, through visualising the explanation and through repeated readings.

Remind the students of the reading purpose and learning goal(s).

- *What helped you understand the diagram of the mixed colours?*
- *What helped you understand the information on page 26 about how many people are colour-blind?*

After reading: Practice and reinforcement

- The students can reread the text as they listen to the audio version. Audio versions also provide English language learners with good models of pronunciation, intonation, and expression.
- Provide further opportunities for students to reread this text as well as other texts with similar themes (see Related texts).
- Have the students identify one or two main points of particular interest to them and write a summary of them by using the subheading and the lead sentence in each section. Alternatively, point out that some of the subheadings are phrases while others are questions. Have students convert each subheading into a question and then search for the answer in that section of text.
- Have them research and present information on their unanswered questions or other interesting facts about colour-blindness.
- Have the students work in pairs to draw and write about three things a colour-blind person might have trouble with. They could use ideas from “No Big Deal” as well as “Living in a Colourful World”.
- After rereading “Living in a Colourful World” and “No Big Deal”, the students could share their ideas on how they and others could make it easier for people at school who are colour-blind.
- Have the students work together to paint a large picture of a rainbow and add labels with the colour names. (You could introduce them to the mnemonic “ROYGBIV” or “Roy G Biv” to help them remember the order of the colours.) Have the students work together to find more names for each colour, for example, “dark blue”, “navy” for “indigo”; “scarlet”, “crimson” for “red”. Have the students add more examples as they discover them in their reading, viewing, and listening.