[MUSIC PLAYING]

JULIA ZHU: Hello, and welcome to *Numeracy in languages*. My name is Julia Zhu, and I am a teacher of Japanese at Baulkham Hills High School.

BRINDHA PUNNEYALINGAM: My name is Brindha Punneyalingam. I am a community language teacher of Tamil from Girraween Public School.

JULIA ZHU: What is numeracy? What role does it play in our lives? In very simple terms, numeracy is the ability to use mathematical ideas effectively to participate in daily life and make sense of the world. Language learning provides a range of rich opportunities to engage our students in numeracy. And so it is essential that we support our students' learning outcomes by providing opportunities which are both age and stage-appropriate. Think about how you may have used numeracy in your life over the last week. Reading a timetable. Scheduling your weekend activities. Working out a good time to call a friend who lives overseas. Using a recipe. Measuring a room for new furniture. Or even calculating the tip you'd like to leave at a restaurant. What does it mean to be numerate? Students should be able to apply their knowledge across a range of contexts, including their personal, school, and work lives. Different curriculum contexts also have distinctive numeracy demands, so students need to be numerate across different subject areas. Being numerate involves mathematical knowledge, dispositions, and tools. In terms of their mathematical knowledge, do students appreciate the usefulness of mathematical knowledge in making decisions, supporting arguments, or challenging positions? In terms of their dispositions, are students confident in using their knowledge of mathematical concepts and skills? Are they willing to engage with tasks? Can they use their mathematical knowledge flexibly? In terms of their tools, can students use tools to communicate their thinking? For example, percentages, graphs, tables, fractions, and decimals.

The New South Wales Department of Education's numeracy policy states, all teachers in New South Wales government schools will develop students' numeracy skills and understandings across all key learning areas. Embedding numeracy into language programs may appear to be challenging. However, there are many ways that you can incorporate numeracy skills into your language teaching. Our syllabus documents support us to embed numeracy into our teaching and learning programs. Numeracy is embedded in all New South Wales syllabus documents, identified as learning across the curriculum content. To find the numeracy in our syllabuses, read the general capability statement at the start of the syllabus. Look for the numeracy icon next to syllabus content. Read the verbs in the syllabus content. As you will see in the syllabus, language learning provides such a range of opportunities for students to develop skills in numeracy. In our lessons, students use the target language to communicate in a range of real or simulated situations, using numbers for counting and measuring. They role-play shopping and eating-out situations in class, negotiating details such as size, quantity, and price, calculating tips, and recognizing savings. Students also use currency exchange rates to complete transactions while traveling. They use expressions of time to sequence events, and create calendars to share information about class routines and celebrations. They examine volume through using recipes and concepts of measurement. They describe animals, people, and objects through length, height, or shapes. Students also summarize and interpret data using tables, charts, or graphs. And, of course, they engage with the skills of addition, subtraction, division, and multiplication.

BRINDHA PUNNEYALINGAM: Look at this airport arrival screen in Europe. There is a range of numerical concepts that we need to process when looking at the screen, especially if we are waiting for passengers coming off a particular flight. How long until the flight lands? What time did the flight leave its departure point? How long was the flight? What is the time difference between Europe and the departure cities? Even just viewing a simple text like this, without applying the target language, we realised that we need to take our students beyond being able to count and do simple arithmetic in the target language. Instead, we need to show them the ways to apply mathematical concepts to a range of situations in the target language. The key to supporting students' numeracy is to ensure that the numeracy skills you teach are stage-appropriate. Don't fall into the trap of thinking that, because you are teaching numbers in Year 7 French or Japanese, that you are supporting students' numeracy skills. Instead, think about the numeracy skills that are required at Year 7 level, and align your language content to those skills.

Let's look at some examples of activities that can be used in Stage 4 language classes. Reading a menu in the target language and calculating costs, discounts, percentages. This can include calculating an appropriate tip, or 10% of takeaway items. In Japanese, you may want to include calculating costs based on sushi tray and plate colours, and comparing the prices in Australia and Japan. Creating budgets and calculating currency conversions for shopping in the target-language country. Using a map, students could produce an itinerary for travel, incorporating time zones and calculating distances. Providing students with a budget to work within means they will need to compare costs for accommodation, venues, and meals. Students can also work out travel times based on their travel speed. Using transport timetable and apps in the target language to understand and interpret information. Using the target language to summarize, analyse, and describe data represented in graphs. For example, students use a target language to conduct a survey of classmates to find out what they usually eat for breakfast, then construct and interpret bar graphs and sector graphs. Interpreting data from sporting events, such as World Cup tournaments or the Olympics, including calculating the percentages of medals won by each country or representing data through different tools.

JULIA ZHU: Every teacher needs to embed numeracy into their teaching and learning programs. Numeracy skills can only be developed when numeracy is implemented across the curriculum and across a range of contexts. This involves a whole school focus, with numeracy skills explicitly taught through every syllabus and by every teacher. You will find that there are many opportunities within the languages classroom to embed numeracy activities, while implementing authentic and engaging lessons.

BRINDHA PUNNEYALINGAM: Thank you so much for taking the time to watch this video today. You can learn more about numeracy at our website.

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