

Vignettes as a means to feel different experiences of mathematics and its teaching

Lulu Healy¹, Ceneida Fernández², Marita Friesen³, Pere Ivars², Jens Krummenauer⁴, Sebastian Kuntze⁴, Salvador Llinares², Libuše Samková⁵ & Karen Skilling⁶

¹King's College London, ²University of Alicante, ³Freiburg University of Education, ⁴Ludwigsburg University of Education, ⁵University of South Bohemia in České Budějovice, ⁶University of Oxford

Theoretical Background

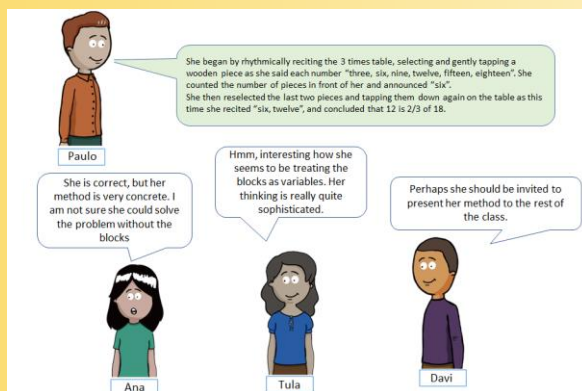
- ❖ Vignettes offer ways of representing both the mathematical strategies that emerge in classroom practices – be they typical or atypical – and the pedagogical framing of such activity, providing virtual experiences of different classrooms realities through which prospective and practicing teachers can reflect upon mathematics and its teaching (Buchbinder, & Kuntze, 2018).
- ❖ They provide opportunities to encounter student diversity, to see beyond what is currently considered typical and to consider how students' mathematical performances both affect and can be affected by the ways of working that are enabled – or disabled – in their classrooms (Finesilver, C., Healy, L., & Bauer, A. in press)

❖ A vignette-based approach to inclusive mathematics teaching

- ❖ The **core idea**: using vignettes to present classroom situations intended to highlight how different tools and representations support different learners in different ways and as a means for teachers to feel mathematics in ways that are congruent with their students' strategies (Fernandes and Healy, 2020). This example focusses on a student that sees with her hands and ears rather than her eyes.

Sample Vignette: Vitória's Method

Vitória, a 10-year old blind student at a mainstream school in the Brazilian state of Sao Paulo, was not confident in reading or writing Braille. At the beginning of the school year, her support worker, Paulo, had made her some small wooden pieces that fitted comfortably in her hand, which she often used when solving mathematics problems. Paulo observed her solving the calculations $\frac{2}{3}$ of 18, $\frac{3}{5}$ of 30 and $\frac{3}{4}$ of 24, using the same method. He described to three other teachers her method for $\frac{2}{3}$ of 18 and asked for their comments.



- How would you evaluate Vitória's method and what would you do next to support her developing ideas about multiplicative structures?
- How would you evaluate the comments of Ana, Tula and Davi and what do you think they might prioritise as their next steps to support her learning?
- How do you think that the mathematics she is learning is affected by the way Vitória sees with her hands and ears?



Digital Support for Teachers' Collaborative Reflection on Mathematics Classroom Situations

Project coReflect@maths

Erasmus+ Strategic Partnership of six partner universities from four countries

Project Goals

- Bringing together and exchanging the practice of vignette-based professional learning established by the project partners
- Developing vignette-based course concepts for teacher students and teacher educators
- Development of a digital tool which facilitates creating vignettes and collaborative reflection on vignettes

www.coreflect.eu

Activity

How do you see this classroom situation? We would like to invite you to analyse this vignette and to share your analysis with us in an anonymised online survey. Scan the QR-code or follow the link and take part in the activity!



<https://ww3.unipark.de/uc/coreflect2>

References

- Buchbinder, O., & Kuntze, S. (Eds.). (2018). *Mathematics Teachers Engaging with Representations of Practice. A Dynamically Evolving Field*. Cham, Switzerland: Springer.
- Fernandes, S. H. A. A., & Healy, L. (2020). Mathematics education in inclusive, plurilingual and multicultural schools. In Leite, L. (Ed). *Science and Mathematics Education for 21st Century Citizens: Challenges and Ways Forwards*. (pp. 301-321). Hauppauge, NY: Nova Science Publishers.
- Finesilver, C., Healy, L., & Bauer, A. (in press) Supporting diverse approaches to meaningful mathematics: from obstacles to opportunities. In Y.P. Xin, R. Tzur & H. Thouless (Eds.), *Enabling Mathematics Learning of Struggling Students: International Perspectives*. New York: Springer.