

REVIEW

A review of “Science Education and International Cross-cultural Reciprocal Learning Perspective from the Nature Notes Program”

Zhou, G., Li, Y., & Luo, J. (Eds.). (2023). *Science education and international cross-cultural reciprocal learning perspective from the nature notes program. Switzerland: Palgrave Macmillan.*

Review Authors

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This book is founded on the global phenomenon of comparative education and its role in the globalised world. It promotes the concept of reciprocal learning between Eastern and Western cultures, with the aim of reflecting on how learning should take place and accommodate the relationship between humans and nature (Zhou et al., 2023). In the first part, the authors base their study on the natural phenomena and different cultures of two countries (China and Canada). The authors concentrate on presenting an interdisciplinary way for teachers and students to understand science and technology, telling stories of the challenges, the impact of successes, and the collaboration needed to create a comprehensive knowledge base and cross-cultural education. This book consists of seven sections written by authors with backgrounds dominated by science teachers, educational assistants, and professors. This book mostly discusses the contributions of the Nature Notes Programme, which was established in Chinese schools as a collaborative programme for science and cross-cultural education, conducted collaboratively between the University of Windsor (Canada) and Southwest University (SWU), China, in collaboration with Prince Edward Elementary School, Windsor, Ontario, and SWU Affiliated Secondary School, Chongqing.

The second part of this book explains natural phenomena that have become part of traditional Chinese culture and can have an impact on human life, namely the Sun and constellations. This section also breaks the stigma for many people that traditional Chinese culture only emphasises literature. In this section, the authors wisely provide some basic information about the impact of science on the distribution of the Chinese calendar into 24 time periods and changes in seasons and climate. The authors also ensure that the concepts of ancient and modern Chinese culture are interrelated and essential to learn as they contribute to human activities and can guide people’s daily lives (Zhou et al., 2019). In addition, in this section, the authors also describe the 12 constellations, which relate to the Western concept of the position of the Earth in its orbit. Thus, the authors succeed in connecting how Eastern and Western cultures have a synergy so that it can be the beginning of generating cross-cultural understanding.

The third part of this book highlights the implementation of the Nature Notes Programme as an educational programme in China and Canada. The authors comprehensively explain that the Nature Notes Programme is an activity with a framework that is carried out by students at school by observing the phenomenon of natural changes over time, and then students can produce findings during their learning (whether in the form of drawings, writing, or other projects). In this section, the authors succeed in mapping the discussion in regard to: the context of the Nature Notes Programme and how the Nature Notes Programme is technically implemented. In addition, in the third section of this book, the authors also present the contextualisation of concrete activities supporting the Nature Notes Programme, one of which is competition. The authors maintain that all activities carried out in the Nature Notes Programme aim to improve students' scientific literacy by providing them with opportunities to directly participate in observation, investigation, and research activities. Thus, in this section, the authors have succeeded in explaining in detail that the Nature Notes Programme has implications for promoting ecological concepts in educational settings and can increase the awareness of students towards nature.

The fourth part of this book describes the China–Canada Reciprocal Learning Programme framework in science disciplines. The authors provide a detailed description of each virtual activity that was carried out three times. The addition of activity time sequences, pictures, and excerpts from student presentations adds validity to this exploration of the implementation. Therefore, the results can inspire teachers in Canada and China to design engaging lessons for their students. In addition, at the end of this chapter, the authors present testimonials and challenges from the programme's implementers, such as students and teachers from both countries. As such, the authors successfully explain that the framework of the China–Canada Reciprocal Learning Programme works optimally according to the cultural needs of both countries.

The fifth part of this book explores how collaborative learning programmes can help students to improve their cognitive and affective skills. The authors concur that in order to stimulate students' inquiry abilities and sensitivity, they can be honed through action. The authors introduce several Chinese students with their inspirational stories that have been impacted by the China–Canada Reciprocal Learning Programme. Every detail of the student's story is told coherently and in detail so that it is clear why these students chose to major in environmental science and medicine. Despite this limitation, the authors do not provide an inspirational story of perspective from Canadian students who have participated in the China–Canada Reciprocal Learning Programme. This section also displays quantitative survey data regarding the impact felt by students. The authors also utilise the teacher's perspective in analysing the success of the students after participating in the programme. As a whole, the authors succeed in clearly and convincingly presenting the outputs of the programme that have been able to have an impact on students, including increased knowledge, improved inquiry skills, and self-development that can improve students' interpersonal and intrapersonal skills and determine the direction of their future goals and careers.

In the sixth part of this book, the authors elaborate on teachers' experiences and perceptions of the implementation of the Nature Notes Programme in two countries. To obtain information related to teachers' perceptions, the authors conducted interviews, which were then written in the form of narratives. In this section, the authors find that teachers had a positive view of the Cross-Cultural Nature Notes Programme. This is because the teachers were able to observe improvements in their students' abilities through the observation activities and resulting projects. Through the authors' analysis, it was also found that the Cross-Cultural Nature Notes Programme can instil positive values in both teachers and students, such as collaboration, mutual respect, creativity, and increased professionalism.

Overall, the authors of this book are great at summarising the explanation of cross-cultural education between Eastern and Western countries through the Nature Notes Programme in a coherent and systematic manner. Starting from the origin of the Cross-Cultural Education

Programme, its design and implementation procedures, to the impact on and implications for teacher and student learning practices. Despite this, the implementation mechanism of this Nature Notes Programme needs more integration of technology so that students can make connections between nature, technology, and culture together. At the end of the explanation, the authors also give two suggestions. The first suggestion the authors make is that the programme would be better if the channels of communication between the two sister schools were more diverse. The second suggestion is that any projects to be implemented under this programme be coordinated so that both parties can work on similar or relevant topics. Therefore, this book is highly recommended for those who are interested in cross-cultural education and teaching-learning curricula at the primary and secondary school levels based on environmental education. This is because this book can facilitate new understandings and perspectives on how to organise the integration of nature concepts into education. The book also provides information on the importance of collaboration, so it is highly recommended that this useful Cross-Cultural Nature Notes Programme be adopted by other Eastern and Western countries, not only by China and Canada.

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References

- Zhou, G., Ho, S. W.-Y., Li, Y., Luo, M., Freedman, H., & Luo, J. (2019). Reciprocal learning between Canadian and Chinese schools through the 24 nature notes project. *Journal of Teaching and Learning. Special Issue: Reciprocal Learning*, 13(1), 7–24. DOI: [10.22329/jtl.v13i1.5988](https://doi.org/10.22329/jtl.v13i1.5988).
- Zhou, G., Li, Yuanrong, & Luo, Jian. (2023). *Science Education and International Cross-Cultural Reciprocal Learning: Perspective from the Nature Notes Program (Hal. 1-164)*. Palgrave Macmillan. DOI: [10.1007/978-3-031-17157-4](https://doi.org/10.1007/978-3-031-17157-4).

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