

MATHEMATICAL LEARNING DISABILITIES: A CHALLENGE FOR MATHEMATICS EDUCATION

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CONTEXT

In recent times, research interest in learning difficulties has increased around the globe. Some of them are still subject to little research (Lewis & Fisher, 2016). This is the case of Mathematical Learning Disabilities (MLD) which are the source of raising educational and social inequalities. Research regarding MLD is carried out in different fields, with various theoretical backgrounds, research hypothesis and aims (Lewis & Fischer, 2016; Scherer & al., 2016): cognitive sciences, neuroscience, psychology, mathematics education. There is not a clear scientific consensus about MLD definition and diagnosis. Moreover, the links between these different fields of research are not enough developed and they should be improved. Our team - called RITEAM (see riteam.ch) - claims that specific studies should be structured and developed in mathematics education regarding MLD in order to improve the identification and the remediation of MLD in an educational context (Dias & Ouvrier-Buffet, 2018). In particular, that implies a better knowledge of the existing research dealing with MLD.

At PME 42, we already proposed a WG with the main aim of identifying current and future research interests about MLD in math education (Ouvrier-Buffet & al., 2018). For that, we proposed a short survey about MLD to collect information regarding different countries. This work allowed us to make a first picture of the international practices about MLD and to confirm the necessity continuing those research in math education. Moreover, we have identified specific keywords about MLD used in different countries. Following the results from the WG of PME42, we have started a literature review on MLD which will be a starting point for the WG of PME43.

PLANNED ACTIVITIES

This WG is conceived in the continuity of the WG of PME42. It aims at the creation and dissemination of a survey getting a full picture of the international educative practices about MLD. The international community of PME will be fundamental for the adaptation of the questions to different cultural contexts. This survey will allow us to compare educative practices in different countries where policies can be pretty different (Scherer & al., 2016) and to federate collaborative research about remediation and teachers training.

The objective of the first session will be a discussion around the MLD question and a first draft of the survey. The session will start with a presentation of the research group RITEAM, the results and the issues of the previous WG (PME42), the first results of

the ongoing literature review and the objectives of the current WG (15min). Then, we will share fundamental bibliographic references about MLD thanks to the inscription to a Mendeley public group created for the previous WG (15min). The participants will be divided in groups and a topic related to MLD will be assigned at each group (for example, how schools deal with MLD students in their country). They will be driven in a discussion about this topic with the objective to identify some crucial questions for the survey (1h).

The objective of the second session will be the presentation and amelioration of the survey conceived in session one and its public release via google forms (1h15). During this time, each group will explain the questions they created. Other participants can intervene with remarks to adjust and improve the questions proposed. When the survey will be stabilised, the participants will be asked to share the survey with some of their contact (15min).

OUTCOME

Through the survey creation, the working session will bring an international contribution on research about MLD. This is essential given the huge cultural differences across countries. The participants will also be provided with fundamental bibliographic texts.

References

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