Intercultural Bilingual Preschool Mathematics
What is mathematics skills?
Bilingual preschool mathematics
Intercultural mathematics
RCT 3 groups

- Treatment Group: 124 Schools
- Control Group: 125 Schools
- Bilingual Preschool Math: 124 Schools
- Intercultural Bilingual Preschool Math: 124 Schools
- Traditional Preschool Math: 125 Schools
Instruments

- Standardized learning test
- Teacher questionnaire
- Director Questionnaire
- Parent Questionnaire
Standardized Learning Test

- Preschool EGMA
- Preschool EGRA
- Math anxiety
- Ethnomathematics skills
- Cultural values
- Oral comprehension
- Ngabere
- Math perceptions
Ethnomathematics Learning Test

Use your fingers to point at the round thing (Kwati)

¿Jänträn bā ta miani nete, meden taenta ne kwre: kwati?
RESULTS
2018 & 2019
JADENKÄ Improves Western Math Skills
JADENKÄ Improves Ethnomathematics Skills

Year 2018:
- Control: 2.0
- Treatment: 3.2

Year 2019:
- Control: 2.0
- Treatment: 3.4

Improvement:
- Control: 0.23 sd
- Treatment: 0.24 sd
Qualitative Findings

**Advantages:**
- Students and teachers clearly have fun and are engaged
- Pedagogy is delivered as intended
- Classes are consistently implemented by teachers of different skill level
- Greater Parental involvement

**Remaining challenges:**
- The pace of the curriculum may be too fast
- The pronunciation of the ngabere language is difficult
CONCLUSION

JADENKÄ increases children's skills in Western math and ethnomathematics.

JADENKÄ increases students' knowledge of the Ngabere culture.

JADENKÄ increases teachers' knowledge of the Ngabere and ethnomathematics.
Thank You!