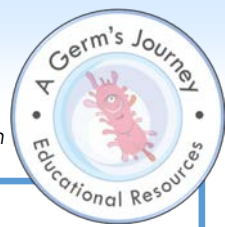


# A GERM'S JOURNEY: co-creation of resources for addressing UN Sustainable Development Goals in education & health in developing countries.



- Prof. Sarah Younie<sup>a</sup>, Dr. Katie Laird<sup>b</sup> & Sapphire Crosby<sup>a</sup>, <sup>a</sup>Education, <sup>b</sup>Infectious Disease Research Group, De Montfort University.

## INTRODUCTION:

- According to UNICEF (2016), in India 400,000 children per year die due to diarrhoeal disease alone, yet participating in correct handwashing practice and building adequate hygiene infrastructure in schools could save one third of children in India from dying
- This project was conceived after researchers created and evaluated resources (book, website games, posters, colouring sheets and a handwashing activity) for managing infection control, through age-appropriate handwashing workshop resources for young children in the UK.
- To provide effective hand-hygiene education globally, the remote locations needed to be reached and the resources needed to be culturally relevant.
- It was decided that the researchers' first focus would be the severely deprived areas of India collaborating with Manav Sadhna (MS) and the Environmental Sanitation Institute India (ESI)



## METHODOLOGY:

This research followed a Participatory Action Research (PAR) model

Research was conducted by visiting the ESI, in order to investigate available hygiene facilities within this specific region, to allow for culturally authentic resources (book and poster) to be created in the future as part of a co-creation project alongside MS and ESI.

**Questionnaires** - teachers were asked a series of questions regarding their opinions of the workshop materials.

**Observations** - conducted by the researchers taking field notes and recording the actions of the children during the workshops.

**Follow-up questions** - Follow-up data was collected by re-visiting the schools and asking the children 4 'yes/no' questions regarding the microbiological principles taught in the workshops.

**Pre and Post Worksheet** - a baseline assessment and identical post-workshop assessment was completed by the children in order to see if the intervention had a direct impact on improving children's knowledge of pathogen transmission and handwashing.

**Data analysis** - a Pearson Chi-Squared Test and Fisher's Exact Test was used to measure the relationship between each CS and their responses to each question regarding the resources. Thematic analysis was used for the qualitative aspect of the data collection.

## FINDINGS:

The data shows that 54% (n=96) of children who completed Germ's Journey workshops had an increased understanding of health hygiene.

### Questionnaires:

- **No significant differences (p>0.05)** was found between the respondents from each CS and their responses to each question.
- Feedback from the teachers included 'having seen the book, makes you realise that germs can be found in so many places' and 'we understood the precautions we should take'.
- **96%** of the teachers stated that the workshop had increased their confidence to teach microbiology/ handwashing schools.
- **98%** stated that it was useful to them.
- **100%** stated that they think that their pupils' handwashing practice will increase after they run the workshop themselves on their own.
- Comments on the website games, including: 'The game makes it very easy to learn about the places where germs live. All this is done enjoyably and in short'.

### Observations:

- The glo-gel activity proved incredibly popular, children were visibly excited, smiling and gasping when seeing the glo-gel on their hands
- Children stayed focused and engaged.

### Follow-up data collection:

- **60-73%** of children knew how germs can cause illness
- **76-80%** knew how to remove germs from hands.

## CONCLUSION:

- Findings indicate that the resources and workshops are successful in their aim - children showed an increased understanding of germs and hand hygiene following the workshops.
- By using a co-creation model and working collaboratively with the end-users, an additional culturally-relevant Gujarati book was developed.
- Using the PAR model greatly aided the research process.
- By establishing an on-going relationship with local organisations, the researchers are able to distribute resources and receive follow-up data, ensuring sustainability of the project.

