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A knowledge exchange programme: bringing together student pharmacists and school pupils.

TONNA, A. and DEPASQUALE, C.

2023

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A Knowledge Exchange Programme: Bringing together student pharmacists and school pupils

**Presented by: Dr Antonella Tonna
Senior Lecturer**

**Co-author: Clare Depasquale
Research Assistant**

**School of Pharmacy and Life Sciences
Robert Gordon University
Aberdeen**

What is knowledge exchange?

Defined as: “*a process that brings together academic staff, users of research and wider groups and communities to exchange ideas, and expertise.*” (1)

This programme uses the student pharmacists as the *educators* sharing their expertise with the school children who are the *learners*.

(1) <https://www.officeforstudents.org.uk/evidence>

What was the driving force for development of this programme?



A shift in overall delivery of healthcare from product-centred to patient-centred.



“Demonstrate effective communication at all times and adapt their approach and communication style to meet the needs of the person.” (GPhC LO3 (1))



A need for education institutions to provide students with opportunities to improve communication skills.



A need to equip students with skills to be person-centred practitioners.




A need to further bridge the theory-practice gap through enhancement of experiential learning.



This may be achieved through the use of peer education as an approach to improve communication and public engagement skills.

(1) Standards for the initial training and education of pharmacists, January 2021. Available at: https://www.pharmacyregulation.org/sites/default/files/document/standards-for-the-initial-education-and-training-of-pharmacists-january-2021_final-v1.3.pdf

A pair of black-rimmed glasses is resting on an open book. A red bookmark is visible in the book. The background is blurred, suggesting a desk or study area.

Current Master of Pharmacy (MPharm) programme at RGU...

- Runs over four years with experiential learning over all four years.
- Various pedagogic approaches also embedded within curriculum to support development of student communication – for example, oral presentations, health promotion activities, role-play with peers, interactions with simulated patients and traditional onsite placements.
- Throughout the course, opportunities are constantly sought for students to interact with a diversity of patient populations.



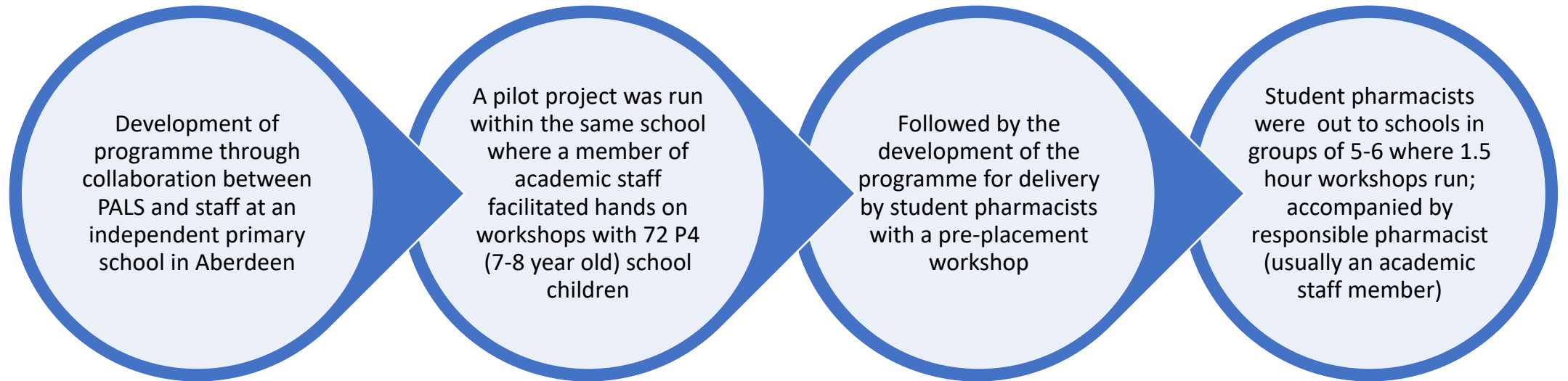
In view of this ...

- This educational experience combines peer teaching with a role-emerging placement – that of a specialist cohort of school age children. Allows student pharmacists to enhance communication skills with school children.
- This activity involves a placement where Stage 4 student pharmacists delivered a Medicines Safety Programme in the classrooms to over 400 primary school children in Aberdeen and Aberdeenshire widening and enhancing placement opportunities for student pharmacists.
- The programme is a compulsory component of a Professional Development Module.
- The definition for peer teaching reported by Aburahma and Mohamed (1) used here:

“sharing of information, attitude or behaviour by people who are not professionally trained educators, but who’s goal is to educate ...”

Aburahma MH, Mohamed HM. Peer teaching as an educational tool in pharmacy schools; fruitful or futile. *Curr Pharm Teach Learn* 2017;9(6):1170-9. <https://doi.org/10.1016/j.cptl.2017.07.026>.

Development of programme



Prior to delivering the school workshops



- Student pharmacists attended a mandatory pre-placement session with a didactic lecture followed by a question and answer session.
- This aimed to introduce student pharmacists to the Medicines Safety School Programme and provide an opportunity for them to familiarise with the resources that are used during workshop delivery.
- This was followed by group work where roles and responsibilities of each were discussed.

Content of programme – Delivery led by student pharmacists

Brief powerpoint presentation to school children about medicines safety

Are medicines a good thing or a bad thing?



RGU ROBERT GORDON
UNIVERSITY ABERDEEN



If we take too little we will still be poorly and if we take too much we would get even more unwell!

RGU ROBERT GORDON
UNIVERSITY ABERDEEN



Measuring Tablets...your turn!

TASK

Count 15 tablets using the counting triangle and label your PLACEBO tablets

Things to put on your label:

- Your name
- The number of tablets in the bag
- Instructions on how to use the PLACEBO tablets
- Today's date

RGU ROBERT GORDON
UNIVERSITY ABERDEEN

My own personal observation – students tend to find this discussion with the school children the most challenging ... need to explore this further

Discussion of requirements and production of a medicines label

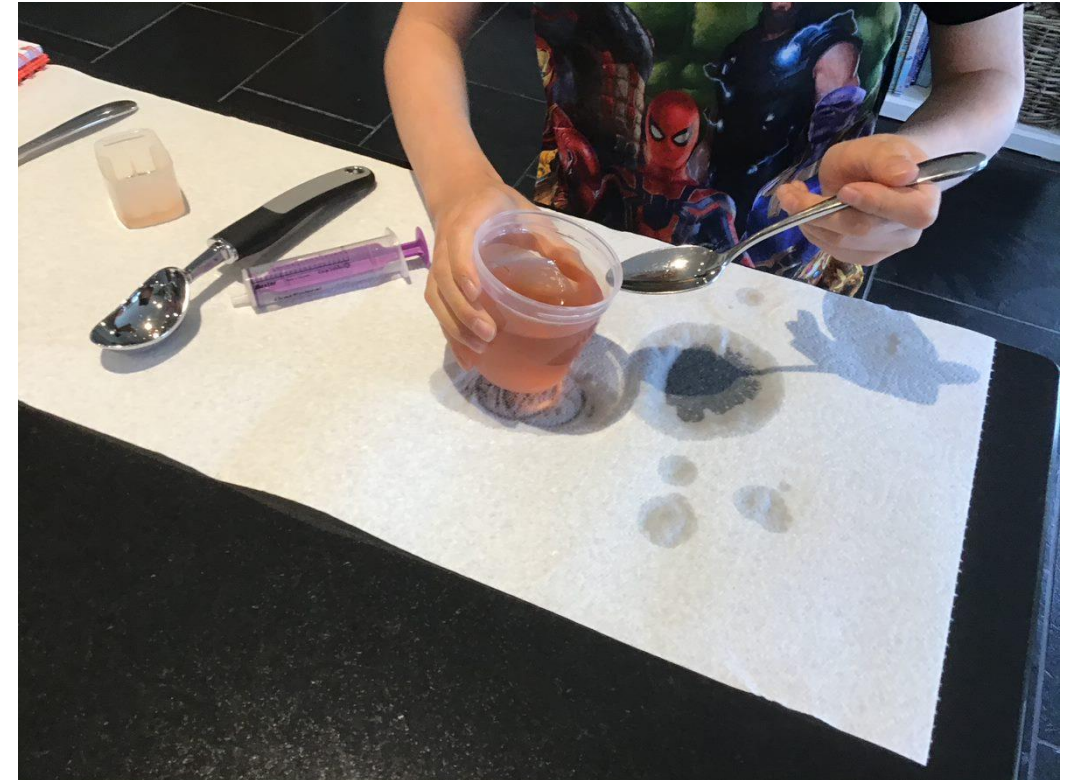
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Dosing and measuring using different pharmaceutical devices

Measuring Liquids



 ROBERT GORDON
UNIVERSITY ABERDEEN



Measuring Liquids...your turn!

As a group, you are going to take turns at measuring liquid medicines!

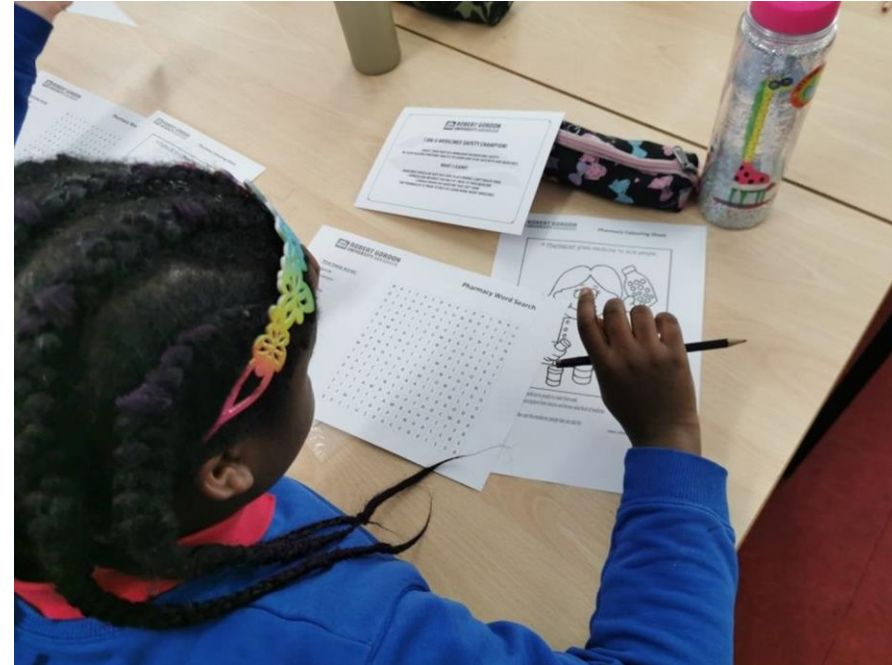
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Measuring

- How do we measure length and distance?
- How do we measure weight?
- How do we measure medicines?
- How can we be sure that we are taking the right amount of medicine?

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Handing out certificates of excellence to all school children



Distribution of after workshop activities to be completed in own time

Further emphasis made on safety throughout the workshop

Rules of medicines safety

- Never use medicines that don't belong to you
- Medicines are not sweets. They can cause you harm if they are not used in the right way
- If you are unsure ask a doctor, pharmacist, nurse, your teacher or a responsible adult
- Store medicines in a safe place



Keeping medicines safe at home

Where should we keep medicines at home?





Student pharmacists
delivering workshops





After workshop
delivery ...

How did we measure the impact of this programme?

Evaluation of school pupils (N=72) learning through a pre- and post- workshop survey assessing knowledge

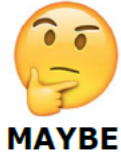
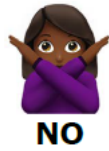
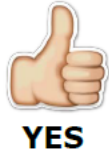
Determining how the programme influenced school children learning and conducted at pilot stage

Results showed increased understanding – for example more school children identified the fact that a kitchen spoon was not suitable for measuring out medicines

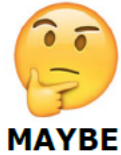
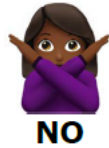
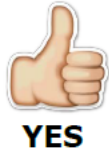
What do I know about medicines?

1. What types of medicines have you ever seen? Try and remember these and draw a little picture of each. If you remember, you can also write the name.

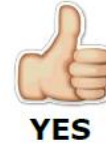
2. Do you think medicines are a good thing? Circle the answer you think is best.








3. Do you think medicines are a bad thing? Circle the answer you think is best.



4. Is it important to measure out a medicine dose? Circle the answer you think is best



5. Which of the following can we use to measure out a medicine?

Kitchen table spoon		Yes/No
Medicine spoon		Yes/No
Measuring cup		Yes/No
Syringe		Yes/No
A ruler		Yes/No

Impact 2

Post workshop evaluation administered to teachers involved in the pilot stage

Overall very positively received

“it is such a positive collaboration with a hugely valuable learning experience ... which you tailor so carefully towards age and stage.”

Impact 3

Exploring how programme received by student pharmacists

Planned for 2020 cohort ... disrupted by COVID! Only 77 students managed the placement – invited to participate in a survey with closed and open ended questions
31% completion (N=24)

“[It] was well organised...I really enjoyed this placement” and “I really enjoyed the primary school placement and would appreciate more opportunities to interact with children”.

“Our allocated time was after lunch and before the end of the school day which meant the children would have been more hyperactive and there was a rush to wrap up before the end of the day”.

COVID adjustments ...

- Led to redevelopment of programme with an online version
- Children were provided with a voiced over presentation and activities to conduct over two weeks; encouraged to keep notes and take pictures
- Live session taking form of online Q and A with academic member of staff

CALPOL

This flavor is Strawberry

This will take away your headache, sore throat and tooth ache.

Keep out of reach from children

This medicine may make you sleepy


Age	Dose
6 months - 12 months	One small (2.5ml) spoonful 3 times a day
1 year - 3 year	One small (2.5ml) spoonful 3-4 times a day
4 year - 7 year	One large (5ml) spoonful 3-4 times a day
8 year - 12 year	Two large (5ml) spoonful 3-6 times a day

1. How many different types of medicines are there?
2. Do medicines come from different countries to the U.K?
3. Can you use some medicines for different illnesses?

Evaluation of virtual delivery...

Again very well received with feedback from teachers:

- *In some ways, being at home and having the digital presentation actually worked very well as they were able and had time to do things.*
- *I wanted to thank you so much for your work and your presentation, activities and for meeting every single one of the children.*



What does this project add?

- There is a lack of published evidence combining both role-emerging placement and peer education in pharmacy undergraduate teaching.
- This initiative allows student pharmacists to interact with children without parental input.
- Supports development of the professional communication skills. Prepares them for future practice particularly in environments where the parents/guardians may not be present during a consultation, for example a hospital ward environment.
- The peer education learning environment employs a broader cognitive gap than that reported in the literature between senior student and junior learner.
- From a knowledge partnership perspective, it supports learning beyond the classroom since provision of a certificate and post-workshop materials are aimed to stimulate further discussion within the home environment.

Taking forward ...

The pilot confirms that the programme is suitable for the targeted audience.

The redesigned virtually delivered programme allows delivery of the programme beyond Aberdeen and the shire to more rural and remote areas – however the role of the student pharmacist in this knowledge exchange still needs to be established.

The current programme may be delivered in collaboration with other healthcare students – for example nursing; this would allow the school children to gain insight into how different professions work together and provide student pharmacists with an additional interprofessional learning opportunity.




Acknowledgements

- Dr Amy Arnold
- Mrs Aly Brown
- Mrs Natalie Drummond

who worked so hard on the logistics to make this initial phase of the programme happen

All schools in Aberdeen and the shire who welcomed the student pharmacists so warmly



Thank you
for your
attention