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Altaf Qadeer

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Why we need to introduce research journals for children

Children learn about the scientific method in a simplified way. Can they also learn about the structure of reading and writing of research articles in a simplified way? Children have simplified versions of famous big dictionaries and encyclopedias. Is it time to introduce simplified research journals?

By: **Altaf Qadeer**

Elementary level students are introduced to a variety of sources of information in their classrooms, homes and other settings. Some books, dictionaries, encyclopedias are a simplified version of the complex form of the same book, such as *The Oxford Elementary School Dictionary*, *Children's Britannica* etc. Why do we have to make a simplified version of those books? It provides some introduction to children about the given topics. It trains them to use such books in future and gradually learn critical thinking and develop innovative skills. It gives students an understanding of the pattern of higher level books in a simplified form. Overall it is considered a source of learning and the literature of this type is on rise in our educational environment. The use of such resources is not limited to science only—the range of subjects can reach other domains as history, geography, music and many more. How our science textbooks are viewed by Sutton (1989:158):

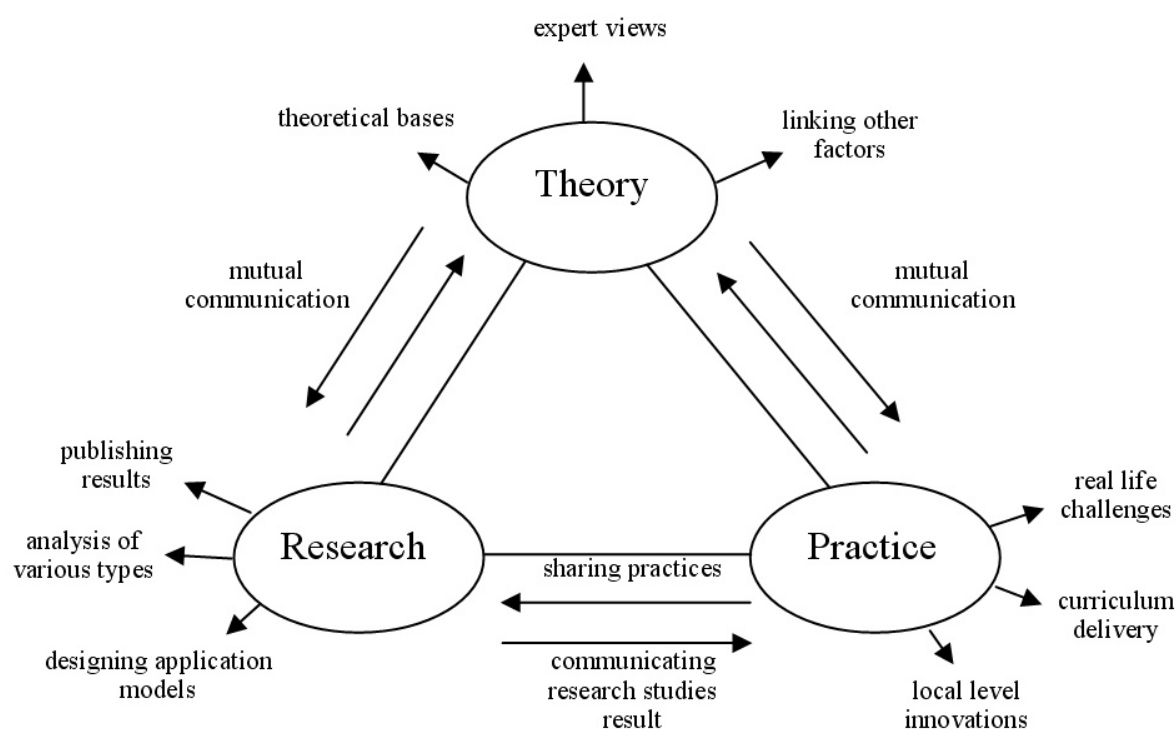
Some current books for school science are in danger of losing their clarity as texts in a welter of glossy illustration and other material such as cartoon strips (some excellent, some trivial). What exactly are these books: part worksheet, part inspiration, part wallpaper, trying to cater for several ability levels, but not really meeting any one level in a sustained way?

On the other hand, in the recent trends science textbooks have extended links to other subjects of schools as Newton et al. (1999:556) remarks:

Science education also has an important contribution to make to the general education of students by developing their ability to understand, construct and evaluate arguments (both as individuals and as contributors to a group).

This rationale provides need for making enriched links between the three domains: theory, research and practice.

According to Vygotsky (1997:106) “every function in the cultural development of the child appears on the stage twice, in two planes, first, the social, then the psychological, first between people as an interpsychological category, then within the child as an intrapsychological category.” The notion of providing a social and cognitive environment that can facilitate certain conceptual domains is closely linked with how children will process that information. In order to make new research understandable for children, many theoretical frameworks support the idea of facilitating information the way it is presented and the way it is processed (cf. Vygotsky 1997). This argument also supports need to make information for children available in simplified way to improve social interactions stronger which can lead to profound psychological processing with the previous knowledge of the child.



Communication between the three domains

The idea of teaching a simple version of a topic in the beginning to facilitate the learning of a complex concept later is common in many domains of education. Some curriculum formats have used a strand model to develop the curriculum from an easy to difficult approach (Ontario Science Curriculum 1998, 2007). For example learning to make a graph in grade one is the beginning of knowing the complex features of graphs in the next years of life. Even the concept of ‘scientific method’ is taught in simplified way at the elementary level of science. Some of the major components of the scientific method are observation, hypothesis, hypothesis testing process, concluding results. The whole idea is to train students to think like scientists and this process promotes analytical and critical thinking. The tools which facilitate to teach difficult concepts are proper language (without misleading and oversimplification), use of graphic organizers, use of instructional pictures, activities and other modes for concept formation. The major components of a typical research journal article include: abstract, introduction, review of related literature, rationale, data or point of view, analysis, results and future implications. Can we teach elementary level students about these factors of research articles in a simplified form? Children can be introduced to this style of research process, reading and writing research articles through the use of simplified versions, modifications and technological resources, according to their own level of understanding. Children’s concept of ‘scientific method’ will be further reinforced through the use of modified journal articles.

Wollman-Bonilla (2000) wrote a journal article ‘*teaching science writing to first graders*’ and concluded: ‘the findings of this study suggest that it may be overly simplistic to fear that genre instruction will limit young children’s development of flexibility and power as writers. In general the first graders not only appropriated most of the basic features of four science genres, they also were able to rework these genres flexibly in light of the task to situate their texts as letters in a dialogue to a familiar audience’ -----‘similarly it may be overly simplistic to

claim that young children cannot develop their own voice as writers at the same time that they are systematically taught specific forms of writing.’ This study also reinforces the possibility to conduct experiments with introducing children’s research journals (simplified versions) for reading and writing purposes. Perhaps introducing a simplified version of journals for reading will be a starting point to provide teachers and students with an example and eventually writing of simplified research articles can also be promoted.

The world of research journals has expanded in the last few decades in amazing numbers (White 2001). Have we tried to introduce the culture of research journals to elementary level students in modified ways? Even to find a simplified version of research journals at this stage will be a difficult task. The numerous benefits of introducing research journals to children can be found by some pilot projects.

Children also have the right to know the research at the level of their understanding within reasonable limits so that they can also meaningfully participate in the society. Training our future generations in this way will be helpful to enhance research activity and social responsibility. The long term goals will include better socioeconomic environment for the children of various countries and eventually it will promote peace and prosperity through research. The questions asked by children may even challenge teachers/adults to think in-depth and reply with more reasoning (Hartman and Glasgow 2002). Have you ever seen research journal article (especially in science education) that is the result of a child’s question? If the research journals present information in complex language, would it be possible for students at the elementary level to benefit from those articles? The simplified version of research journals will engage children in knowing the ways we discover facts and what we have discovered as a result of our previous studies. Students can be motivated to think about some future implications to encourage research thinking. According to ‘exemplar theory’ we need some prototypes for concept formation (Crooks and Stein 1988). Showing children an example of the structure of journal articles in simplified form will provide a base for future extension of conceptual framework. On the other hand the simplified version of research journals will involve students more in the research process and they will also know the outcome of recent discoveries. This process will also generate children’s interest (many factors can vary results) to know the outcome for future findings and also design their own simple experiments and publish their results. Children’s research journals with real potential can perhaps enrich research in our classrooms and maybe in the future the use of children’s research journals will become a part of our teaching and learning. It has potential to introduce a new dimension to our curriculum designing, lesson planning, assignment writing and evaluation of overall performance of students and teachers. Like any other learning tool every aspect of strategy will not bring the same result in all population groups because many other factors also play important role. The launch of children’s research journals will be beneficial for many students if not for all. This new generation of children’s literature will make our world of learning more vibrant and lively. The children familiar with the structure and some information of research journals may find university workload relatively easy. The barrier between researcher and children can be reduced through this new form of literary interaction. Keil and Wilson (2000:281) remark: “We think that there is much overlap between the form of everyday explanation used by non-scientists and explanations used by scientists.” This is an important research finding which can further support the rationale for this new generation of literature. Teachers will also be more involved with research and this will encourage application of the research results more efficiently in their teaching. The flow of feedback and information may also be enriched between the authors and readers through the modified version of research journals.

Perhaps one way of introducing children's research journals is to publish a simplified version of current research journals that are more close to children's interest. At the initial stage we can select journal articles from our current traditional journals (written for scholars) and change them in simplified form. The other option is to just start children's research journals under new titles (necessary administrative possibilities can be worked out). Obviously not every research can be simplified to children's level but this does not mean that no research can be simplified to children's level.

Why we need it:

- To teach the pattern of research articles, for example abstract, introduction, previous studies, current study, results, future implications bibliography etc. (mainly based on the structure of scientific method).
- To introduce elementary level students to the latest research work that may be interesting for children.
- To address the children's right to know the latest research at the level of their understanding within reasonable limits.
- To enhance research interest in students.
- To prepare students for higher level studies in a simplified way.
- To enhance communication between the research community and the children readers.

How to start it:

- Exploring the possibility to publish the simplified version of recent journal articles that may be suitable for children (permission aspect can be explored).
- Start a new research journal for children.
- Start various research journals for children according to the subjects.
- Start translations in other languages for the benefit of all children in the world.
- Giving children's research journals a look that appeals to children's taste such as cartoons, pictures, web diagrams etc.

Teachers and others can teach children to conduct a small experiment or study and then results can be published in some children's research journals. Eventually reading and writing of research journals for children will become a part of our academic world.

As it is true for any academic and scholarly work, this process will require more research in future to constantly review the progress of children's research journals and make necessary modifications and improvements. The pedagogical concern at this stage is to introduce children's research journals with necessary background information and training. It is important to keep a pedagogical balance in the use of research journals and other learning resources. Applying necessary pedagogical methods, the overall effectiveness of this new type of children's literature may bring many benefits for our academic world.

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e-mail: altafqadeer@yahoo.com