What is the vision for AI education resources? How well is it currently being met?

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ABSTRACT

Artificial Intelligence (AI) is currently being applied to many industries and disciplines – one of the growing areas being Education. Several firms have come up with AI classroom integrated tools. The tools of interest for this research are those from publishers in the field of Education. An example of this maybe Aleks from McGraw Hill, which has been used with some success in both schools and University courses. Revel from Pearson also seems to be having success preparing students for teacher lead course work. The research questions to be investigated are: What vision do these products have, and are they currently accepted as useful/potentially useful tools in education? By answering these questions, light can be shed on the path that educational institutions could take towards off-the-shelf AI products from the publishers.

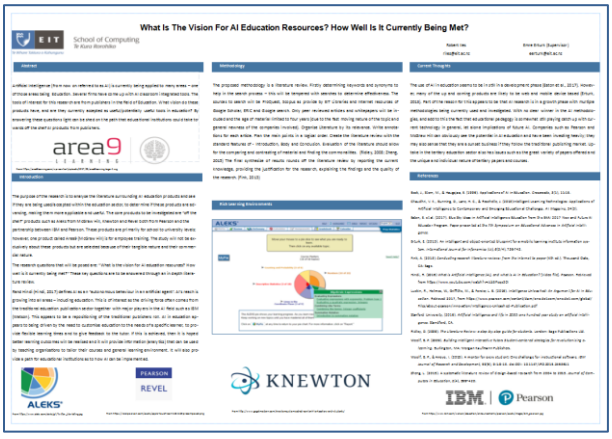
Keywords: Artificial Intelligence, AI, AI in Education

1. INTRODUCTION

The purpose of the research is to analyse the literature surrounding AI education products and see if they are being used/accepted within the education sector, to determine if these products are advancing, making them more applicable and useful. The core products to be investigated are "off the shelf" products such as Aleks from McGraw Hill, Knewton and Revel both from Pearson and the partnership between IBM and Pearson. These products are primarily for school to university levels; however, one product called Area9 (McGraw Hill) is for employee training. The study will not be exclusively about these products but are selected because of their tangible nature and their commercial nature.

The research questions that will be posed are: "What is the vision for AI education resources? How well is it currently being met?" These key questions are to be answered through an in-depth literature review.

Rand Hindi (2015) defines AI as an "autonomous behaviour in an artificial agent." AI's reach is growing into all areas – including education. This is of interest as the driving force often comes from the traditional education publication sector together with major players in the AI field such as IBM (Watson). This appears to be a repositioning of the traditional publishers' role. AI in education appears to being driven by the need to customise education to the needs of a specific learner, to provide flexible learning times and to give feedback to the tutor. If this is achieved, then it is hoped better learning outcomes will be realised and it will provide information (analytics) that can be used by teaching organisations to tailor their courses and general learning environment. It will also provide a path for educational institutions as to how AI can be implemented.



2. METHODOLGY

The proposed methodology is a literature review. Firstly, determining keywords and synonyms will help in the search process; these will be tested with databases to gather good results. The sources to search will be ProQuest, Scopus as provided by EIT Libraries, and Internet resources of Google Scholar, ERIC and Google Search. Only peer reviewed articles and whitepapers will be included and the age of material

This poster appeared at the 8th annual conference of Computing and Information Technology Research and Education New Zealand (CITRENZ2017) and the 30th Annual Conference of the National Advisory Committee on Computing Qualifications, Napier, New Zealand, October 2-4, 2017.

limited to four years (due to the fast-moving nature of the topic and general newness of the companies involved). The literature will be organised and selected according to its relevance. During this process, the student will write annotations for each article and report their main points in a logical order. Evaluation of the literature should allow for the comparing and contrasting of material and finding the commonalities (Ridley, 2008; Zheng, 2015). The final synthesis of results finalizes the literature review by reporting the current knowledge, providing the justification for the research, explaining the findings and the quality of the research (Fink, 2013).

3. CURRENT THOUGHTS

The use of AI in education seems to be in still in a development phase (Eaton et al., 2017). However, many of the up and coming products are likely to be web and mobile device based (Erturk, 2013). Part of the reason for this appears to be that AI research is in a growth phase with multiple methodologies being currently used and investigated. With no clear winner in the AI methodologies, and add to this the fact that educational pedagogy is somewhat still playing catch up with current technology in general, let alone implications of future AI. Companies such as Pearson and McGraw Hill can obviously see the potential in AI education and have been investing heavily; they may also sense that they are a sunset business if they follow the traditional publishing market. Uptake in the tertiary education sector also has issues such as the great variety of papers offered and the unique and individual nature of tertiary papers and courses.

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