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Rapid Prompting Method (RPM): A suitable intervention for students with ASD?

Rapid Prompting Method (RPM) has been suggested as an intervention suitable for use with individuals with Autistic Spectrum Disorders (ASD). The authors present a review of current research in the area. Three studies qualified for inclusion and findings were summarised into four categories. Findings appear to indicate an association between RPM and a decrease in repetitive behaviours. Further research in the area of RPM is warranted in order for it to be considered as a qualifying evidence-based practice.

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INTRODUCTION

Social media, conference presentations and commercial activity indicate the growth in popularity of Rapid Prompting Method (RPM) in Ireland. A growing demand for and widespread dissemination of RPM has led to its adoption in schools and by parents. As a result, the Minister for Education and Skills has been requested to support the use of RPM in schools (Parliamentary Debates, 2014). Consequently, a review of the literature and evidence base for this intervention is warranted due to the increased promotion for evidence-based practice in the education of students with Autistic Spectrum Disorders (ASD) (Simpson, 2005).

Rapid Prompting Method was created by Soma Mukhopadhyay, a parent of a son (Tito) with autism. Through RPM, Tito Mukhopadhyay has written books, short stories and poetry on his experiences. In 2000, RPM was highlighted in the media by the BBC in *Tito's Story* and subsequently in '*Sixty Minutes'* (2003), and on CNN in 2008 in the US. Soma Mukhopadhyay instructs students using RPM and provides training in the intervention at her clinic *Helping Autism through Learning and Outreach* (HALO) in Texas.

Rapid Prompting Method has been developed as an intervention for individuals who have no speech or have difficulty communicating through speech. It is designed to teach academic subjects with communication being taught in the process. Verbal and written expression, at varying levels, is the key objective for all students (Mukhopadhyay, 2008). Teaching resembles discrete trial training sessions where students are presented with new content using a 'Teach-Ask' paradigm and are immediately questioned on it (HALO, 2014). Responses are elicited using intensive verbal, auditory, visual, and tactile prompts. An errorless learning strategy is used to guide students to the correct response if not elicited independently (Mukhopadhyay). Visual prompts including letter and chart boards, stencils and drawing exercises are used to teach communication and handwriting (HALO).

Mukhopadhyay (2008) asserts that students with ASD have different sensory systems. She advocates observation of self-stimulatory behaviour in order to identify the open learning channels. This may be via one, or a combination of, the visual, tactile or auditory routes. Suitable prompt forms are then selected. The teacher keeps the student on task by matching pace and prompts to the student's self-stimulatory behaviour in order to keep the student focussed on the content of the lesson.

RESEARCH METHODOLOGY

The purpose of this review is to present, contextualise, analyse and evaluate sources and issues relating to RPM (Cohen, Manion, and Morrison, 2011). An extensive review of databases available through National University of Ireland Galway Library, and internet searches were undertaken to identify information on RPM. Search terms included 'Rapid Prompting Method', 'Soma', 'HALO', 'RPM', and 'autism'. Three sources of primary research, only one of which was peer reviewed, were identified. Due to the dearth of studies in this area, all three primary research studies were included in the review (Table 1). Documentary analysis was the exclusive research method with content analysis used to analyse the studies. Categories of analysis included background information on RPM, primary research on RPM, and commentaries on RPM. Each examined different aspects of RPM.

The limitations of this review are acknowledged as the body of research in this area is narrow. It should be noted that a small number of academics have contributed to the commentaries on RPM. Some of these have worked collaboratively on critiques of this subject. A possible conflict of interest in one study is that one of the co-authors serves on the scientific advisory board of HALO (Lang, Harbison Tostanoski, Travers and Todd, 2014).

FINDINGS

As only three relevant studies were identified, the findings from each will be presented separately. In the earliest study, Gernsbacher (2004) used a case study approach to map the development of a child with ASD from birth to age eight. At age five and a half years, the child's mother visited Mukhopadhyay in the United States. She was "unwilling to go to the extreme measures that the Indian mother had used with her son" (p.88) and therefore, modified the methods of the RPM approach. The emphasis was on providing a means of expression for the child rather than on the academic content prioritised by RPM. Choice cards, marking sheets and finally a modified typing system were used for communication. The RPM core element of 'repetitive prompting' is not referred to in this study, so it is unclear if the method used is closer to 'facilitated communication' which has been discredited in the literature (Tostanoski, Lang, Raulston, Carnett and Davis, 2014). Solomon (2006) compared the use of RPM in the HALO clinic with users in the field. Her study examined 200 hours of video-recorded interactions involving sixteen children with severe autism with their parents, siblings, and teachers as they were socialised by an experienced adult instructor into the use of RPM. Solomon identified that the greatest challenge in the application of RPM lay in training educators and family members in its use. Consistency in use across social situations was difficult to achieve. She identified major differences between the use of RPM in the HALO context (*Generation 1*) and in the parent context (*Generation 2*). HALO saw RPM as developing the child's communication through academic subjects whereas the *Generation 2* practitioners extended communication to everyday life.

Chen, Yoder, Genzel, Goodwin and Belmonte (2012) investigated the RPM claim that repetitive behaviours emerge when social and communication behaviours are disrupted, and subside on their own when social and communication functions are enabled. They tested hypotheses including: an increase in gaze indicative of joint attention, decreasing repetitive behaviours, the relationship between joint attention and repetitive behaviours, prompting associated with decreases in behaviours, and an increase in choice complexity across sessions with no decrease in correct responses. They chose not to investigate whether RPM produces valid communications and deferred this to future research. They found that the only hypothesis that was statistically significant was that repetitive behaviours were reduced. However, it was not established that this was linked to an increase in joint attention as hypothesised. Indeed, direct gaze was not related to successful responding. Levels of prompting were found not to be linked to decreases in repetitive behaviours. The reason for the reduction in repetitive behaviours was

not established. There was an increase in task complexity with no decrease in correct responses. The level of correct responses did not increase across sessions.

Table 1: *Overview of RPM Studies*

Author	Purpose	Participants	Intervention	Results
Chen *et al* (2012)	Test hypotheses that: 1. Increase gaze indicative of joint attention 2. RPM will decrease repetitive behaviours 3. Inverse relationship between joint attention and repetitive behaviours 4. Prompting associated with decrease in behaviour 5. Increase in choice complexity across sessions with no decrease in correct responses Test which prompts are most closely related to learning behaviour	9 participants	Analysis of video recording of 1-1 sessions. Between 4 and 8 sessions per individual.	Appears to support a decrease in repetitive behaviours and an increase in the number of multiple-choice response options without any decrease in successful responding. Other hypotheses not upheld.
Solomon (2006)	To examine use of RPM across groups of users	16 participants	Analysis of 200 hours of sessions	An adapted method used by parents. Emphasis 1st generation on academic, 2nd generation on socialisation. Challenges integrating RPM across school settings and personnel
Gernsbacher (2004)	That child without speech could communicate thought processes	1 participant	Case study using adapted RPM	Modified typing used as communication tool

DISCUSSION OF FINDINGS

The aim of this review is to consider the implications of findings in an educational context. The findings will be discussed according to the themes of academics, communication, prompting and behaviour.

Academic subject learning

The primary aim of RPM, according to HALO, is to teach academic subjects with communication being taught in the process. However, this review has identified no published research on the effect of RPM on academic achievement. The level of task difficulty was explored by Chen et al. (2012) who found that when task complexity was increased, there was no decrease in correct responses. The significance of this finding has been disputed by Tostanoski et al. (2014) who contend that Chen et al. have interpreted this data positively in favour of RPM as no increase in correct responding was observed.

Communication

The current definition of ASD includes difficulties in relation to social and behavioural domains, as well as impairments in receptive and expressive language (APA, 2013). In comparison, HALO (2014) defines ASD as essentially an expressive disorder. Gernsbacher (2004) outlines how the student's expressive communication is developed through an adapted form of RPM. However, it is unclear if the intervention used in this study could accurately be described as RPM. Furthermore, there is a distinct tension between HALO and parents in relation to the educational and conversational ways of practising RPM and its implications for participation in the social life of the students (Solomon, 2006). Joint attention is recognised as a predictor of communication in the area of ASD (Kasari, Paparella, Freeman and Jahromi, 2008). However, Chen et al. (2012) found that joint attention was not related to successful responding and that "direct gaze might actually distract from internal cognitive deliberation" (p.12). This finding is counter to current established research in the field (Lang et al., 2014).

Prompting

A key component of RPM is that responses are elicited using intensive verbal, auditory, visual, and tactile prompts in order to guide students to the correct response (Mukhopadhyay, 2008). The matching of a variety of prompts to learning styles by tutors facilitated all modes of learning. No single style of prompting proved preferable in supporting the students (Chen et al., 2012).

RPM does not require prompts to be faded (HALO, 2014) and this absence of a protocol for prompt fading has been criticised for promoting prompt dependency

(Tostanoski et al., 2014). HALO justifies prompt dependency as preferable to no response. Lang et al. (2014) argue that it may be that the child becomes more adept at following prompts and there may be no new learning involved. This reflects the argument that prompt theory in general lacks validation in literature (Healey, 2010). Lang et al. argue that RPM facilitators use prompts to "convey messages that may not represent the individual's genuine desires, thoughts, or emotions" (p.45). This casts doubt on whether it is the facilitator or the child who is the true author of the message. It is vital to note that many commentaries have questioned if RPM is similar to the discredited 'facilitated communication' (Healey, 2010; Todd, 2013; Lang et al., 2014; Tostanoski et al., 2014).

Behaviour

Although changes in behaviour is not a stated aim for RPM, Chen et al. (2012) found the reduction of repetitive behaviours by RPM was significant. They had hypothesised that an increase in joint attention and therapist prompting would result in decreased repetitive behaviours. These links were not, however, established and the reason for the decreased repetitive behaviours is unclear (Lang et al., 2014). Chen at al. propose that it was the increased expressive ability that led to this decrease in repetitive behaviours. Levels of repetitive behaviours were found to be unrelated to the successful completion of tasks (Chen et al.). This was justified as demonstrating the independence of task success from repetitive behaviours and the ability of the facilitator to match the prompts and tasks to the individual.

Conclusions and Recommendations

It is apparent that there is a lack of research evidence on RPM and this needs to be addressed by the academic community. This is not unique to RPM, as Wong, Odom, Hume, Cox, Fettig, Kucharczyk, Brock, Plavnick, Fleury and Schultz, (2014) report that there are only twenty-seven interventions that can be classified as evidence-based practices. Teachers need direction when choosing an intervention and hence researchers should investigate perceived efficacy associated with interventions (Hess, Morrier, Heflin and Ivey, 2008).

Consistency in use of RPM has been difficult to achieve and the adaptation/ modification of RPM has been a feature (Gernsbacher, 2004; Solomon, 2006). This has been evidenced in the selective use of some RPM elements (Gernsbacher), the lack of consistency in application, and the extension of RPM by parents to social contexts (Solomon). Further research on the fidelity and faithfulness of the implementation of RPM is necessary (Charman, Pellicano, Peacey, Peacey, Forward and Dockrell, 2011).

Determinations by regulatory bodies in the United States highlight that RPM is not research-based and should be regarded as an experimental treatment (Wisconsin Department of Health Services, Autism and other Developmental Disabilities Treatment Intervention Advisory Committee (TIAC), 2014). The conclusion of this review reflects those determinations, as there is insufficient evidence to support the use of RPM as an intervention for students with ASD due to the lack of an evidence base. Early indications would suggest a possible link between RPM and reduced repetitive behaviours. Testimonies from users, parents and schools support the effectiveness of the approach (Vosseller, 2015). However, the validation of RPM is dependent on the commissioning of research which would address RPM's claims in academic and communicative development (Wong et al., 2014). The results of such could potentially assist professionals and parents in determining evidence-based practice that is suitable for individual students (Simpson, 2005). This article aimed to ascertain if RPM was a suitable intervention to use with students with ASD. It has found that currently there is insufficient evidence available to support the use of RPM. More research is required into this method before teachers should use it is as part of their evidence-based practice repertoire.

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