A typology of student reading engagement: Preparing for response to intervention in the school curriculum

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ABSTRACT

This study seeks to develop a typology of students' reading engagement through secondary analysis of international sampled survey data. It aims at providing research-based evidences informing teachers how to help readers advance in reading performance. It hopes that when students complete junior secondary schooling (Grade 7–9) at age 15, more students can read *happily*, *widely* and *skillfully*. After establishing that *Fondness for reading*, *Aspiration for reading*, and *Good at reading* are three pertinent facets of reading engagement affecting reading literacy performance, the effects of variables pertaining to these facets are examined using Macao-China data drawn from the OECD's Programme for International Student Assessment (PISA) 2009 Reading Literacy Study. The present study adopts a person-centered approach to arrive at a typology of eight latent clusters of students, each of which is identified with specific reading engagement characteristics. Response to reading intervention can then be proposed to help successive cohorts of junior secondary students enhance their reading literacy performance.

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1. Introduction

A lot of students are dependent on effective instruction to read at optimal levels (Beaudoin, Daigneault, & Zbikowski, 2007; Chall, 1983; Christenbury, Bomer, & Smagorinsky, 2009; Guthrie, 2008; Guthrie & Klauda, 2014). Reading intervention, corrective approach to overcome reading difficulties, is one key method helping students become good readers (Denton & Vaughn, 2003; Glover & DiPerna, 2007; Johannessen & McCann, 2009). Admittedly, success of reading intervention depends on the identification of students who are struggling to get to a grip of reading, and targeting remediation of the main problems faced by them. An exemplary study was carried out by Torgesen et al. (2001), who examined the immediate and long-term effects of instructional approaches in an intensive reading intervention study for students with severe reading disabilities.

To design effective reading interventions, there is one thing needing utmost attention of both teachers and researchers. Lyon and Moats (1997) noted that, in research designed to identify the instructional and ecological conditions of reading intervention, a complex and multivariate methodology should be considered. In essence, such research is required to identify the instructional components that are critical for the success of the struggling readers, alongside the interrelationships amongst these instructional components. In the present study, according to a conceptual model of reading engagement, *Fondness for reading*, *Aspiration for reading*, and *Good at reading* are three pertinent facets of reading engagement (see Fig. 1) affecting student reading performance and constitute the principal instructional components of the reading intervention to help students read *happily*, *widely* and *skillfully*. Regarding the interrelationships of the three principal instructional components, regression commonality analysis is performed to assess their contribution, unique or in common, to the explanation of variance in student reading literacy performance (Nimon & Reio, 2011).

Foorman and Torgesen (2001) listed other things needed attention by the teachers and researchers which are about the critical elements of classroom and small-group instruction for the promotion of reading success in students. Note-worthily, many reading interventions studied heterogeneous groups of students with reading difficulties that are identified according to vague and inconsistent criteria. Concerning this, Lyon and Moats (1997) argued that the reading interventions must be cogently
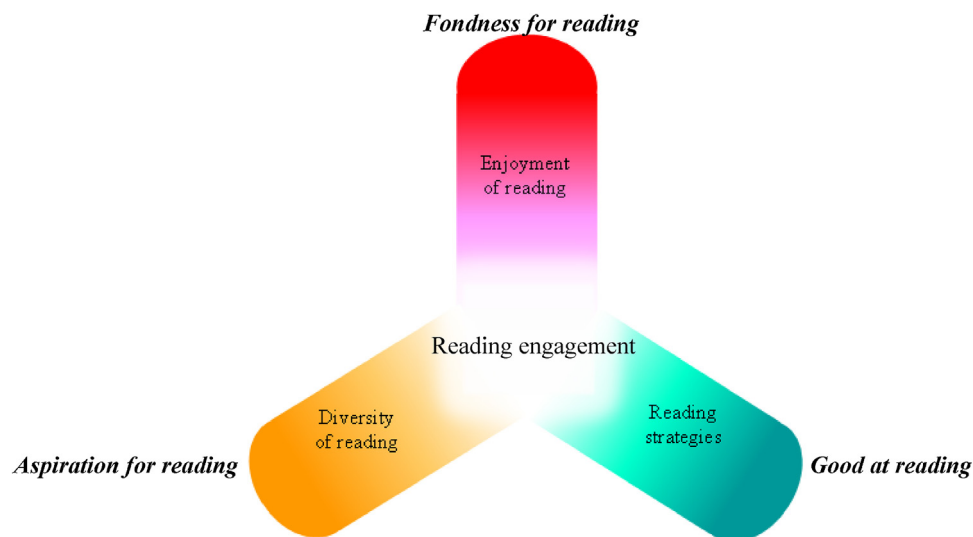
Fig. 1. Conceptual model of sets of variables pertaining to the three facets of reading engagement in the explanation of reading literacy performance.

defined so as to allow teachers and researchers to convince others of why different interventions are selected, alongside the roles that different interventions play in achieving treatment gains for different groups of students. In the present study, it is to this end that a typology of students' reading engagement is developed to inform teachers and researchers to prepare for response to intervention in Macao-China's Grade 7–9 school curriculum.

In past decades of reading intervention research, *Response to Intervention* (RTI) has been considered a potential method for ensuring that students are provided with instruction that is responsive to their educational progress and developmental needs (Glover & DiPerna, 2007). Within the RTI framework, students with limited educational progress are assigned to specific evidence-based interventions designed to improve their studying behaviors or rate of learning. RTI generally targets at all the students in the school, rather than only those few identified as at-risk. Service delivery typically comprises all students receiving class- or school-wide instructional practices (i.e. first-tier service), and some selected students identified with limited or delayed learning progress take part in need-based interventions of varying levels of intensity (i.e. the second- and the higher-tier services). Therefore, RTI is a multi-tier implementation (Hawken & Horner, 2003). Notably, student assessment and decision-making are key to the success of RTI. Application of data-based decision criteria to school-wide screening and regular monitoring of progress of the at-risk students are needed to ensure that those students who are in need are matched with appropriate services (Denton & Vaughn, 2003; Glover & DiPerna, 2007). It is the intention of the present study to show that the typology of student reading engagement derived in this study may facilitate evidence-based decision-making in the RTI service delivery.

1.1. Backdrop of this study

Macao-China is a Special Administrative Region of the People's Republic of China. During the whole period of K-12 basic education, there is no territory-wide public examination to gauge educational quality and equity. Fortunately, Macao-China participated in the PISA assessment since 2003, and PISA 2009 is the only one on reading literacy available for the Government to plan policy for its students. Macao-PISA assesses *all* 15-year-old secondary students in its basic education system, and the modal grade for the

15-year-old students is Grade 9. Therefore, the findings of this study have bearings on the reading instruction of the junior secondary (Grade 7–9) students in Macao-China.

The RTI design proposed for adoption in this study deviates from those used abroad (e.g. in the US) in two ways. First, the target subjects of RTI are *not* the full cohort of 15-year-old students who are studying in the different grade levels in PISA 2009. Instead, it is *all* the successive cohorts of Grade 7–9 junior secondary students in Macao-China's basic education system. That this is so is because this study is a secondary analysis of data of PISA 2009, and it proves too late to target RTI to the 15-year-old students participating in the study. By the time the typology was obtained through latent profile analysis to guide the formulation of the RTI the students should have exited the Grade 7–9 basic education system already. As at 2015, PISA 2009 is still the most comprehensive dataset containing the required variables (i.e. reading engagement and literacy performance) needed in this study. The foci of the two recent cycles of assessment (i.e. PISA 2012 and PISA 2015) are on mathematics and science respectively. The forthcoming most comprehensive PISA dataset on reading engagement and performance will be the PISA 2018.

Secondly, in line with the RTI practiced in the US (see National Research Center on Learning Disabilities [NRCLD], 2005 for an example), the main idea of deriving a typology of reading engagement in the present study is to provide useful pedagogical information to the Macao-China teachers to tailor-made their reading instruction to the Grade 7–9 junior secondary students. Through curriculum-based assessment, changes of the three facets of student reading engagement in relation to reading literacy progress can be monitored continuously in the multi-tier implementation of the RTI. Specifically, tier-1 RTI aims at increasing reading comprehension performance of all the Grade 7–9 junior secondary students through elevating students' three facets of reading engagement. Each of the clusters of students in the typology will be identified for small-group supplementary instruction during the tier-2 RTI. At the tier-3 RTI, individualized instruction can be provided to those students who cannot be benefited from tier-2 RTI. If the RTI is implemented well, there will be increased student reading engagement and literacy performance assessed in the forthcoming PISA 2018 Reading Literacy Study. In this way, Macao-China Government can make use of the PISA 2009 assessment results to gauge and monitor the education quality of the Grade 7–9 students.