

Literacy Interventions Promoting Adolescent Reading Engagement and Motivation: A Systematic Literature Review

Dr Charlotte Cockroft and Dr Cathy Atkinson

Manchester Institute of Education, University of Manchester, UK

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Correspondence concerning this article should be addressed to:

Cathy Atkinson, Manchester Institute of Education, Ellen Wilkinson Building, University of Manchester, Oxford Road, Manchester, M13 9PL.

Email: cathy.atkinson@manchester.ac.uk

Abstract

It is important to consider instructional and affective needs of adolescent readers as both correlate with proficiency. Given the dearth of research into how affective factors within interventions promote reading development, the authors undertook a systematic literature review of adolescent literacy interventions, which measured outcomes relating to motivation and/or engagement. Six studies met criteria, the majority of which were of high quality. Five aimed to improve both performance and motivation and four were within universal provision. Findings suggest that including motivational components within technical reading intervention promotes reading motivation, although it is not clear whether this is mediated by improved reading proficiency. Interventions were generally cognisant of Ho and Guthrie's (2013) affirming motivations for reading, although the dimension of peer value–devalue was overlooked. Future research could consider the socio-cultural context for adolescent reading; and explore further the impact of adolescent reading interventions that target engagement and motivational factors.

Introduction

Learning to read is regarded as the most fundamental goal of education and begins during early schooling (Strommen & Mates, 2004). To leave high school as a proficient reader, a student must become skilful in a range of higher order reading behaviours, including constructing the meaning from text, making inferences, learning additional vocabulary and summarising content from the text (Torgesen et al., 2007). Despite this, Organization for Economic Co-operation and Development (OECD) figures indicated that both in the United States (US) and the United Kingdom (UK), 17 per cent of 15-year-olds did not achieve the Programme for International Student Assessment (PISA)

baseline level 2¹ of proficiency in reading (OECD, 2013a). Furthermore, those without proficient literacy skills were more likely to report poor health and social outcomes (OECD, 2013b). Despite this, towards adolescence, direct reading instruction diminishes and the specialised needs of adolescents may be overlooked (Alvermann, 2002; Torgesen et al., 2007). Consequently, it is not surprising that students who had difficulty reading at an earlier age will continue to experience difficulties through to adolescence, where the focus is not on reading instruction (Nelson & Manset-Williamson, 2006; Valleley & Shriver, 2003).

Researchers have identified that cognitive processes alone are insufficient in describing reading behaviours (Lau, 2009), with the importance of two affective factors — engagement and motivation — often cited (cf. Klauda & Guthrie, 2015). While the terms, motivation and engagement are frequently used interchangeably, Guthrie, Wigfield, and You (2012) argued that they should be defined separately. Guthrie et al. (2012) described engagement as a multi-dimensional construct, encompassing behavioural, cognitive and affective processes. An engaged reader is one who is “motivated to read, strategic in their approaches to comprehending what they read, knowledgeable in their construction of meaning from text and socially interactive while reading” (p. 602). Motivation, on the other hand, involves directing the behaviour in a given activity and is driven by the individual’s goals, values and beliefs in a particular domain (e.g., reading).

Research has examined the differences between proficient and less proficient readers and found variation, not only in terms of their reading competency but also their motivation to read (e.g., Chapman & Tunmer, 2003; Melekoglu, 2011; Wigfield & Guthrie, 1997). Klauda and Guthrie (2015) proposed that some students’ reading difficulties may be related to unusually low motivation, leading to disengagement displayed as lack of effort, attention and persistence, identified as the ‘motivation challenge hypothesis’.

These ideas may be particularly pertinent when considering that attitudes towards reading appear to change as students move through to adolescence. Findings from a large-scale literacy survey involving nearly 30,000 UK children between the ages of eight and sixteen (Clark, 2014) found older students were typically more disengaged from reading than younger students. Highlighting the specific issue of engaging older readers, the report found that only around a third of 14- to 16-year-olds (36.7 per cent) said that they liked reading ‘very much’ or ‘quite a lot’ compared to 49.7 per cent of 11- to 14-year-olds and 65.8 percent of 7- to 11-year-olds.

Positive self-beliefs about reading ability can increase reading engagement, while perceptions of low ability can lead to motivational difficulties (Wigfield & Eccles, 2000). Torgesen et al. (2007) summarised that low motivation and interest can result in less time spent with the text, limiting practice and experience. This can affect maintenance, fluency and development of reading skills; indeed the consequences of lower than average reading proficiency and limited engagement have been referred to as the Matthew Effect (Stanovich, 1986).

Motivated readers exhibit more engaged behaviours (e.g., persistence, effort and time spent) whilst reading text, resulting in them being able to process the information and read on a deeper, cognitive level. In comparison, less motivated readers are less engaged and find it more difficult to develop

¹ Students proficient at Level 2 are able to recognise “the main idea in a text, understanding relationships, or construing meaning within a limited part of the text when the information is not prominent and the reader must make low-level inferences. Tasks at this level may involve comparisons or contrasts based on a single feature in the text. Typical reflective tasks at this level require readers to make a comparison or several connections between the text and outside knowledge, by drawing on personal experience and attitudes” (p. 79; OECD, 2013c). Summary description for all of the seven levels of proficiency in reading can be located in the PISA (2012) Assessment for Analytical Framework (OECD, 2013c).

the skills required to become a proficient reader, such as vocabulary and content knowledge (Cunningham & Stanovich, 1998). For adolescents, who may have spent years finding it difficult to master the technical aspects of reading, Alvermann (2002) noted the importance of providing ways of increasing self-efficacy and student engagement alongside reading instruction, through providing a variety of texts to promote literacy interest.

Theoretical perspectives on reading motivation and engagement

Ho and Guthrie (2013) proposed eight aspects of reading motivation, derived from four separate motivational theories. These included *affirming motivations*, or factors positively associated with achievement, and negatively related *undermining motivations*. These motivational dimensions and the theories from which they are derived are shown in Table 1.

Table 1: Theoretical Derivation of Affirming and Undermining Motivations (from Ho & Guthrie, 2013)

Underlying theoretical position~	Affirming motivation*	Undermining motivation*
Self Determination Theory (SDT) (Ryan and Deci, 2000)	Intrinsic motivation – interest and enjoyment in reading and desire for frequent reading	Avoidance – aversion to reading in school and limiting time and effort toward reading
Expectancy-Value Theory (EVT) (Wigfield & Eccles, 2000)	Value – the belief that reading for school is important	Devalue – reading is not important and lacks usefulness for the future
Socio-cognitive theory (Bandura, 1997)	Self-efficacy – beliefs about one’s capability to complete reading tasks	Perceived difficulty – perception that reading books in school is difficult
Research on impact of sense of relatedness on academic engagement and performance (Furrer & Skinner, 2003)	Peer value – belief that one’s reading habits and viewpoints are valued by peers	Peer devalue – belief that one’s reading habits and viewpoints are devalued by peers

Note. ~From Klauda and Guthrie (2015)

*Definitions from Ho and Guthrie (2013)

From the work of Guthrie and Wigfield (2000), Guthrie et al. (2012) adapted the engagement model of reading developed, to describe how classroom context and instruction, reading motivation, behavioural engagement (e.g., time spent reading, attention and persistence) and achievement are related, as illustrated in Figure 1. Guthrie and Wigfield (2000) also identified nine supportive instructional practices within their engagement model of reading (later adapted by Guthrie et al., 2012), which were:

- learning and knowledge goals
- real-world interactions
- autonomy support
- interesting text
- strategy instruction
- collaboration
- rewards and praise
- evaluation and
- teacher involvement.

These relate to students’ reading motivation, engagement and achievement.

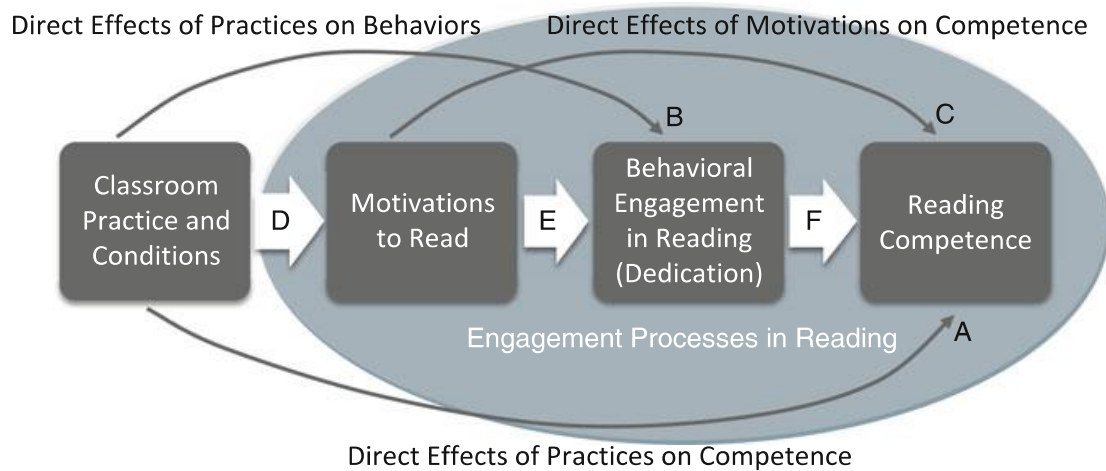


Figure 1: Model of Reading Engagement Processes within Classroom Contexts (Guthrie et al., 2012)

Rationale and research questions

Despite arguments for supporting engagement and motivational factors for struggling adolescent readers, previous research has focused primarily on technical reading interventions. Scammacca et al. (2007) synthesised findings from 31 studies, which focused on adolescent reading outcomes measuring fluency of text reading, vocabulary and use of comprehension. Whilst their findings demonstrated benefits in terms of reading efficacy, motivation and engagement were not focus areas. In a later meta-analysis, Edmonds et al. (2009) claimed social and affective factors such as motivation and engagement may have contributed to improved adolescent outcomes in reading comprehension but were unable to explore these variables in their synthesis, concluding instead that future research should gain a better understanding of their impact.

Despite ongoing interest in effective technical reading interventions, much less is known about how engagement and motivational factors might support adolescent reading development. Acknowledging this gap, the current paper aims to provide a systematic synthesis of research that has measured outcomes relating to motivation and/or engagement as part of a reading intervention targeted for adolescent readers, and to identify factors that may contribute to its effectiveness.

Method

Selection of studies

The current review follows guidance set out within the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) Statement (Moher, Liberati, Tetzlaff, & Altman, 2009) which consists of a 27-item checklist outlining the processes for identifying and reporting studies. The PRISMA framework is particularly useful for evaluations of interventions (Moher et al., 2009).

To be included within the current systematic literature review, the article had to be:

- a. published within a peer-reviewed journal between 2000 and 2014;
- b. an evaluation of an intervention aimed at increasing reading motivation and/or engagement as at least one of the intervention outcomes;

- c. conducted within a mainstream high school setting with young people aged between eleven to seventeen; and
- d. written in the English language.

Electronic databases (PsychInfo, ERIC and Web of Science) were searched using the following terms: read* motivation OR read* engag* AND adolescen* OR child* OR youth* OR young pe* OR teen* OR pupil* OR student* OR learner* AND interven* OR program* OR package AND school. Reference lists of papers identified were examined for any additional publications that may have met inclusion criteria.

Screening and study quality assessment

The quality of the remaining papers was assessed. As both quantitative and qualitative methodologies were accepted, two frameworks were used to assess quality. The frameworks developed for a systematic literature review exploring the effectiveness of solution-focused brief therapy (Bond, Wood, Humphrey, Symes, & Green, 2013) were used as described.

Quantitative studies were assessed using the American Psychological Association (APA) (2006) criteria, which give credit for specific features including:

- the use of randomised group design;
- focus on a specific well-defined problem;
- comparison with treatment-as-usual, placebo or, less preferably, standard control;
- use of manuals and procedures for monitoring and fidelity checks;
- sample large enough to detect effect (Cohen, 1992); and
- use of outcome measure(s) that have demonstrably good reliability and validity.

A maximum of seven points was awarded for criteria met. Once scored, a quality description of high was allocated for five to seven points, medium for three to four points and low for zero to two points.

Qualitative studies were assessed using criteria drawn from Spencer, Ritchie, Lewis, and Dillon (2003) and Henwood and Pidgeon (1992). Points were awarded for each criterion met, with a total of twelve points being the maximum. Criteria included:

- the appropriateness of the research design;
- clear sampling rationale;
- well-executed data collection;
- analysis close to the data;
- emergent theory related to the problem;
- evidence of explicit reflexivity;
- comprehensiveness of documentation;
- negative case analysis;
- clarity and coherence of the reporting;
- evidence or researcher–participant negotiation;
- transferable conclusions; and
- evidence of attention to ethical issues.

Once scored, a quality description of high was given for nine to twelve points, medium for five to eight points and low for zero to four points.

Where mixed-method research approaches were used, both frameworks were applied and the higher quality score was awarded.

Data extraction and synthesis

For all included studies, data were extracted and synthesised into tables, which included data relating to:

- a. the aims of the study;
- b. the study design and content;
- c. the participants; and
- d. pre- and post-intervention measures and outcomes.

The current paper first considers the appraisal of the studies included within this review, by providing a brief summary of the focus, delivery and targeted population of the interventions included. The subsequent section provides an overview of each of the articles reviewed, along with the main findings.

Results

A total of 664 papers were identified as being potentially relevant from electronic searches and reference harvesting. Further examination of title and abstract excluded 628, leaving 36 remaining papers. After full reading, a further 30 were excluded through not meeting inclusion criteria, leaving six included in the current review. A flow chart in Figure 2 illustrates the number of articles at each stage of the review (Moher et al., 2007). Quality assessment concluded that four of six studies were of high quality (Cantrell et al., 2014; Cuevas, Russell, & Irving, 2012; Guthrie & Klauda, 2014; Guthrie, Klauda, & Ho, 2013) and the remaining two studies were of medium quality (Lau & Chan, 2007; Mercurio, 2005).

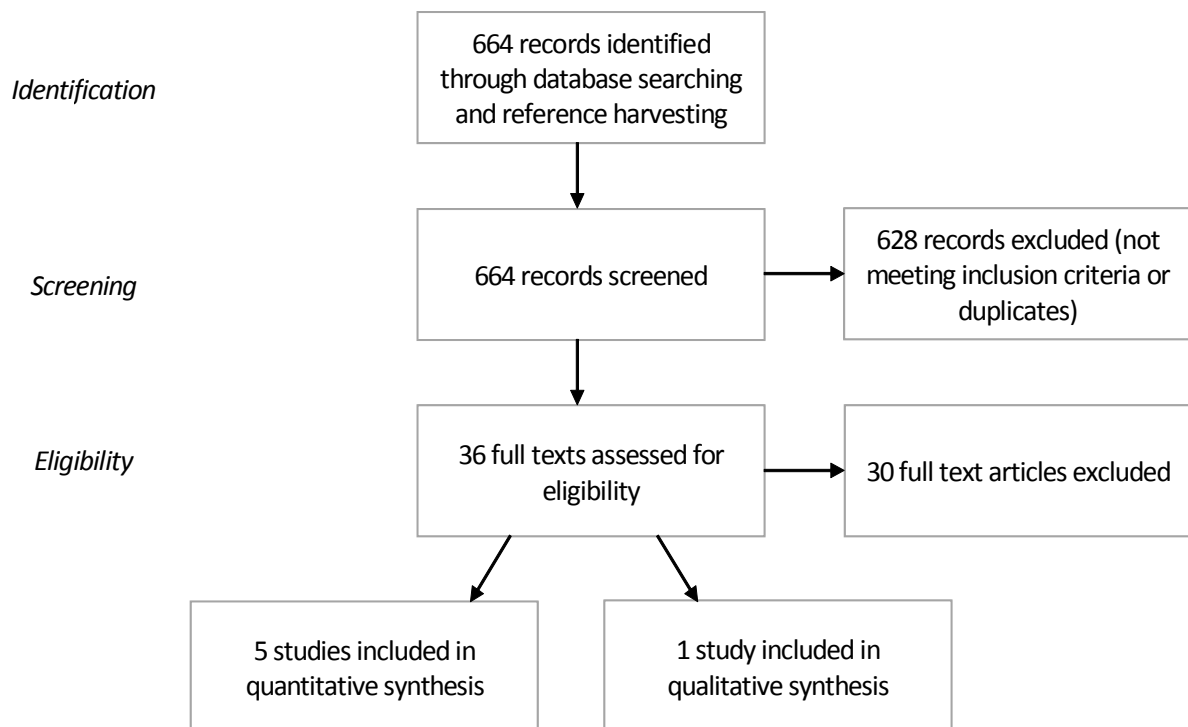


Figure 2: PRISMA flowchart

Table 2 illustrates the studies included, along with the main characteristics. In order to delineate findings, firstly an overview of key characteristics across all of the studies is provided. A narrative account of each included paper follows, to provide descriptions of the interventions and their outcomes. Finally, components of the interventions will be explored with reference to Ho and Guthrie's (2013) affirming motivations.

Table 2: Intervention Characteristics and Effectiveness

Article authors	Sample	Age and presenting difficulties (if any)	Study design	Intervention description	Intervention intensity and duration	Measures and outcomes	Follow up
Cantrell, Almasi, Rintamaa, Carter, Pennington and Buckman (2014)	851 (intervention group 462)	Sixth grade students with reading difficulties	Randomised controlled trial	The Learning Strategies Curriculum is designed to help students derive meaning from the text, identify and remember key information and develop writing and competence.	250 minutes per week over one academic year	Reading comprehension: (GRADE;c)= Reading motivation: (MRQ;c)* ES $r^2 = .226$ (moderate to large) Use of reading strategies: (MARS1;c)* ES $r^2 = .228$ (moderate to large)	None
Cuevas Russell and Irving (2012)	107 (intervention group 62)	High school students aged between 15 – 17	Quasi-experimental design	Independent Silent Reading (ISR) computer module programme.	14 x one hour sessions over 18 weeks	Comprehension ability: (GMRST; c)* ES $d = .61$ (moderate to large) Total reading ability: (GMRST; c)* ES $d = .60$ (moderate) Text specific reading assignments: (TSRA; c)* ES not given Motivation to read: (AMRS; c)* ES $d = .66$ (moderate to large)	None

Guthrie and Klauda (2014)	549	Seventh grade students	Switching replications design	Concept-Oriented Reading Instruction (CORI): Cognitive strategy instruction combined with motivational-engagement support.	90 minutes daily over four weeks	Information text comprehension: (ITCA; c)* ES d = .26 (small to moderate) Reading fluency: (WJRF; c)= Motivation and engagement: (RME; c)* ES β = .25 (small to moderate)	None
Guthrie, Klauda and Ho (2013)	1159 (intervention group 854)	Seventh grade students	Quasi-experimental design	Concept-Oriented Reading Instruction (CORI): Cognitive strategy instruction combined with motivational-engagement support.	90 minutes daily over six weeks	Reading achievement: (ITCA; c)* Reading motivation: (MRIB-S; c)* No effect sizes are reported.	None
Lau and Chan (2007)	88 (intervention group 22)	Seventh grade students with reading difficulties	Quasi-experimental design	Cognitive strategy instruction supporting reading comprehension, reading strategy use, metacognitive skills and reading motivation.	32 x 35 minute sessions, delivered once or twice daily over a period of six weeks.	Reading strategy and comprehension: (RSCT; c)* ES η^2 = .18 (large) Reading motivation: (RMQ; c)= Transfer effects: (RTT; c)= Use of reading strategies: Descriptive statistics demonstrated that the EG scored higher than the CG in three of four strategies assessed.	Four-month follow-up: Reading strategy and comprehension (RSCT; c)=

Mercurio (2005)	108	Seventh grade students	Interviews and field notes	Self-selection reading programme.	Three x 90 minute sessions a week over one academic year.	Seven emerging themes: (1) students naturally reflected on literacy elements discussed in class, (2) students engaged in serious self-reflection while reading books, (3) students learned how to choose books that were right for them, (4) students learned they could enjoy a book, (5) students learned they could enjoy more than one genre, (6) students chose reading over other activities, and (7) students became more involved, interested readers.	None
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Note. Outcome measures used; GRADE = Group Reading Assessment and Diagnostic Evaluation. MRQ = Motivation to Read Questionnaire. MARSI = Metacognitive Awareness of Reading Strategies Inventory. GMRST = Gate-MacGinite Reading Skills Test. TRSA = Text Specific Reading Assignment. AMRS = Adult Motivation for Reading Survey. ITCA = Informational Text Comprehension Assessment. WJRF = Woodcock-Johnson Reading Fluency Test (third edition). RME = Reading Motivation and Engagement survey. MRIB-S = Motivation for Reading Information Books in School. RSCT = Reading Strategy and Comprehension Test. RMQ = Reading Motivation Questionnaire. RTT = Reading Transfer Test.

Motivation measures are in boldface.

c = child report

* indicates presence of statistically significant difference. = indicates no significant change from baseline to post-test or no significant difference between intervention and control group.

Key characteristics

Focus/aim

Five different interventions were evaluated within the six studies, as illustrated in Table 2. A common focus of five of the studies was to improve both reading performance and motivation, by focusing on technical and affective components of reading. The exception was Mercurio (2005), which evaluated a programme that focused on engagement and motivational components, in aiming to increase students' reading engagement and enjoyment.

Delivery, group size and time

All interventions were delivered in school as whole class sessions. Teachers in the participating schools delivered the interventions, except Lau and Chan (2007) where this was facilitated by the researcher, an experienced teacher. The length of the intervention varied from between four weeks and a whole academic year. Intensity of the delivery also varied from daily sessions (Guthrie & Klauda, 2014; Guthrie et al., 2013; Lau & Chan, 2007) to a single session per week (Cuevas et al., 2012).

Target group and age range

Two of the selected studies specifically targeted adolescents with identified reading difficulties (Cantrell et al., 2014; Lau & Chan, 2007) while the remaining four studies were aimed universally. Five of the six studies targeted early adolescence, with the exception of Cuevas et al.'s (2012) research, which examined the impact of their reading programme with students in the tenth grade.

Descriptions of the qualifying studies

Cantrell et al. (2014)

A randomised-controlled trial of 462 sixth-grade students with below average reading scores was used to examine the year-long impact of a supplemental reading course, the Learning Strategies Curriculum (LSC), which comprised strategy-based instruction. Students in the intervention group were provided with a minimum of 250 minutes per week of the LSC.

The authors explored two dimensions of students' reading engagement: motivational and cognitive. They also sought to examine the impact on reading achievement. Trained on the implementation of the intervention, teachers delivered lessons based on a number of LSC strategies to support students to derive meaning from the text, identify and remember key parts of the text and develop writing competence. Eight critical instruction procedures were used to teach each of the strategies within the programme:

- pre-test and make commitments;
- describe;
- model;
- verbal practice;
- controlled practice and feedback;
- advanced practice and feedback;
- post-test and make commitments; and
- generalisation.

The results indicated positive student perceptions for strategy use, along with significantly improved scores for reading motivation for the intervention group. These two measures produced moderate to large effect sizes. Reading motivation domains measured (efficacy, extrinsic and intrinsic) also highlighted significantly improved scores, with the exception being the social domain. Cantrell et al. (2014) speculated that this might have been due to insufficient opportunities for social interaction (e.g., discussion). Finally, the authors noted no significant improvements in reading comprehension and postulated that students might not have had sufficient time to ‘internalize’ the strategies learnt.

Cuevas et al. (2012)

This study investigated the effectiveness of a technology-supported Independent Silent Reading (ISR) programme on high school students’ reading comprehension and motivation. The researchers developed a computer package, which consisted of scaffolding techniques to address four components seen as essential in improving adolescents’ reading comprehension:

- improving vocabulary;
- prior knowledge and background information;
- inferencing and prediction; and
- cognitive and metacognitive strategies.

Participants were 145 high school students aged 15 to 17 years with a range of reading abilities, who were randomly assigned to one of three groups (two experimental and one control group).

The results indicated a positive effect for the computer-based ISR, with significantly improved scores in reading achievement and reading motivation when compared to the control group, with moderate to large effect sizes.

Because the next two studies both use the Concept-Oriented Reading Instruction (CORI), they will be considered chronologically.

Guthrie, Klauda and Ho (2013)

This study examined the impact of the CORI intervention on students’ reading motivation, reading engagement and reading achievement. CORI emphasises the use of motivational practices associated with affirming motivations (intrinsic motivation, self-efficacy, peer value and value), by enabling success, providing choice, fostering collaboration, emphasising importance and affording relevance. CORI also includes cognitive strategy instruction, mainly in the forms of teaching inferencing, summarising and concept mapping.

This large-scale study consisted of 1,159 seventh-grade students across four middle schools. CORI was delivered by the students’ usual reading and language arts class teachers, who had received training and underwent fidelity checks. CORI was implemented daily in place of traditional reading and language instruction over a 90-minute session.

Using structural equation model comparisons for analysis, findings highlighted that students who received CORI had significantly higher scores in affirming motivations, dedication and reading achievement than those receiving traditional instruction.

Guthrie and Klauda (2014)

This study explored whether CORI combined with explicit support for student motivation and engagement would increase informational text comprehension and student motivation. Four motivational constructs were provided by teachers through CORI (competence support; providing

choice; emphasising importance of reading; and arranging collaboration) to 615 seventh-grade students within four middle schools. Cognitive scaffolding was embedded in the form of strategy instruction, summarisation and concept mapping. The study extended previous literature, which had focused on elementary students and used quasi-experimental research methods. Using within-subjects experimental design allowed for more rigorously defined controls.

The results indicated positive student perceptions of teachers' use of instructional support, along with significantly improved scores on the informational text comprehension and reading motivation measures, with small to medium effect sizes.

Lau and Chan (2007)

The purpose of this study was to examine the impact of a new approach to teaching reading comprehension to Hong Kong readers experiencing difficulties: Cognitive Strategy Instruction (CSI). The authors noted that traditionally, Chinese language instruction was predominately teacher-focused (e.g., delivering all of the information of a prescribed text), rather than being theoretically driven and more student-focused. Adapting CSI to fit with Chinese language teaching, the authors aimed to enhance reading comprehension, strategy use, metacognitive skill development and to improve reading motivation. The programme consisted of four sets of reading comprehension strategies taught through teacher explanation and modelling, along with guided and independent practices. Metacognitive skills were embedded within instruction. To enhance reading motivation, the programme emphasised the use of motivational elements, which included recognising students' improvements to support self-efficacy; using a range of interesting reading materials; activities to promote peer collaboration and co-operative learning; and an emphasis on effort and optimism.

Eighty-eight low achieving seventh-grade students were randomly assigned to one of four groups: the intervention group or one of three control groups. The intervention group received thirty-two, 35-minute sessions over six weeks; whilst the control groups received traditional instruction.

Findings indicated that the CSI programme significantly improved reading comprehension, with large effect sizes calculated. This positive trend was generally maintained during a follow-up analysis four months later. Results also indicated positive improvements in strategy use and metacognitive skills. However, data for students' overall reading motivation did not significantly improve.

Mercurio (2005)

This study aimed to elicit student perceptions of a self-selection reading programme and to examine changes in attitudes toward reading. The authors proposed that a reading programme that provided middle school students with choice about reading material would foster reading engagement and make reading a more enjoyable experience. One hundred and eight seventh-grade students in one middle school took part in an additional reading class, which took place for 90 minutes, three times a week over one academic year.

The intervention had several embedded elements. Firstly, students were given autonomy in choosing their own reading material from a broad choice. Time was provided for students to read their chosen text and additionally they participated in a range of activities, including group discussions, projects and mini-lessons. Students were required to take responsibility for reading for an additional 30 minutes per evening and writing a book journal, which aimed to engage the reader with the text and foster critical thinking. Therefore, as well as identifying ways to engage and motivate students in reading practices, cognitive reading processes were also factored in.

Data were collected through field notes, surveys and in-depth interviews, which yielded seven emergent themes (see Table 2). In addition to qualitative data, supplemental descriptive statistics of students' attitudes toward reading and time spent reading were gathered prior to and following the

reading programme. These data demonstrated a higher percentage of positive student attitudes toward reading and more time spent reading per week out of school.

Engagement and motivational factors of interventions

With reference to the framework proposed by Ho and Guthrie (2013) (see Table 1), the intervention content, as described, was organised into the four affirming motivational constructs — intrinsic motivation, value, self-efficacy and peer value — that are suggested to be positively associated with achievement. The following sections provide a brief overview of how the constructs were incorporated (where explicitly defined) within the interventions. Details are shown in Table 3.

Intrinsic motivation

Findings show that all six studies promoted intrinsic motivation, primarily defined as ‘choice’. Additionally, all of the papers included methods of promoting students’ awareness of the value of reading. For example, within CORI, students were asked about learning sources, to create a sense that reading generated knowledge (Guthrie & Klauda, 2014; Guthrie et al., 2013).

Self-efficacy was the most recognisable dimension within all of the interventions, and, most commonly, feedback was used to promote students’ reading self-efficacy (Cantrell et al., 2014; Guthrie & Klauda, 2014; Guthrie et al., 2013; Lau & Chan, 2007). Finally, peer value was overlooked in two of the selected papers (Cantrell et al., 2014; Cuevas et al., 2012). In the remaining four papers, peer collaboration was embedded within session content. For example, through a buddy system (Mercurio, 2005) or group projects (Guthrie & Klauda, 2014; Guthrie et al., 2013; Lau & Chan, 2007).

Discussion

Given the wealth of literature surrounding adolescent literacy, only a small number of studies explored the impact of interventions on reading motivation and engagement. Five of the six included studies addressed technical aspects of reading, such as comprehension, as their primary focus. Only one study had a primary focus of addressing motivation and engagement using a self-selection reading programme (Mercurio, 2005). This study yielded data predominately with a qualitative emphasis, and, to the authors’ knowledge, there are no quantitative data evaluating the impact of a purely affective adolescent reading intervention, although it is debatable whether, in the context of Guthrie et al.’s (2012) model (see Figure 1), such an intervention would be desirable without instructional practice and technical reading support. In addition, follow-up measures were only reported in one paper (Lau & Chan, 2007). Measuring impact and sustainability over time would be useful in identifying any longer-term gains.

When motivational components were present within technical reading interventions, reading motivation improved, with the exception of one study (Lau & Chan, 2007). However, it is difficult to identify the ‘active ingredient’ and establish whether the engagement and motivational components supported increased reading efficacy or whether technical aspects enhanced performance, leading to increased self-efficacy and ultimately reading motivation. Linnenbrink and Pintrich (2003) proposed that when competence is increased, it is likely to impact on an individual’s self-efficacy, which, as a result, can enhance cognitive and behavioural engagement, as well as motivation. Therefore, it seems likely that the technical aspect of the interventions contributed to the effects reported on motivation and engagement. However, without empirical evidence of the impact of affective reading interventions alone, it will be difficult to establish causal associations.

Table 3: Affirming Motivational Factors Represented in the Interventions

Motivational Components				
Article author	Intrinsic motivation	Value	Self-efficacy	Peer value
Cantrell et al. (2014)	Self-selected reading material Variety of reading material (e.g., newspapers, magazines, plays)	Benefits of using reading strategies emphasised	Feedback provided Make verbal commitment to improve skills Opportunities to monitor own progress	***
Cuevas et al. (2012)	Reading material provided on a computer	Benefits of using reading strategies emphasised	Opportunities to monitor own progress and understanding	***
Guthrie and Klauda (2014)	Self-selected reading material Opportunities to demonstrate learning Student input of topic areas	Relating texts to personal background Building concrete knowledge from the text (e.g., explaining how reading complements videos)	Providing texts that are readable Providing feedback Goal setting	Partner reading Exchanging ideas Group discussions Group work Peer feedback
Guthrie et al. (2013)	Self-selected reading material Opportunities to demonstrate learning Student input of topic areas	Relating texts to personal background Building concrete knowledge from the text (e.g., explaining how reading complements videos)	Providing texts that are readable Providing feedback Goal setting	Partner reading Exchanging ideas Group discussions Group work Peer feedback
Lau and Chan (2007)	Range of reading materials that were 'authentic'	Emphasis on effort to improve reading ability	Providing feedback	Group discussions Group work
Mercurio (2005)	Self-selected reading material Opportunities to demonstrate learning	Reward provided for reading tasks completed	Providing texts that are readable	Group discussions Peer reading opportunities

Note: ***where motivational component was not explicitly defined

All studies within this review broadly acknowledged the four affirming motivations, which are expected to relate positively to reading achievement (Ho & Guthrie, 2013). However, peer value appeared to have been overlooked in two of the six studies (Cantrell et al., 2014; Cuevas et al., 2012). This motivational dimension refers to reading behaviours valued by an individual's peers (Ho & Guthrie, 2013). Within the studies examined, peer value was exhibited through different means, including exchanging ideas, discussions, peer feedback and group work.

A potential criticism here is whether the interventions listed under peer value actually addressed the issue of whether or not peers valued reading, or whether they were more about peer connection or peer engagement. The importance of the latter element is not disputed. A large scale longitudinal study of high-school students identified 'connected with peers' as one of the most significant factors (McGaha & Igo, 2012). However, the peer value–devalue dimension is also potentially important to consider. For example, Atkinson (2009) reported that a whole class programme designed to promote reading engagement and motivation amongst adolescent boys had to be terminated due to factors associated with peer devalue, including student disenfranchisement, non-participation and barracking from peers.

One particular element is perhaps particularly worthy of further attention: the papers included within this review frequently referred to providing choice and variety of interesting texts; however, there appeared to be greater emphasis on providing students with traditional printed reading materials. Whilst there are significant motivational differences between able and less able readers, this is more marked for books than for other media (Clark, 2014). Steinkeuhler (2010) wrote about the benefits of video games within the classroom in promoting literacy, describing not only technical benefits such as reading manuals and interpreting meaning, but also social benefits that emerged through online communities (e.g., discussion boards). Sanford and Kurki (2014) highlighted the importance of researchers taking a critical look at how new literacy practices, such as technology can be embedded within real contexts.

Alvermann (2002) noted that, for struggling readers, literacy instruction should be inclusive of meeting not only cognitive needs, but also cultural needs. McLean, Rowsell, and Lapp (2014) identified three key features of literacies that adolescents engage with: social/interactive; multiple modal (e.g., audio, video, text); and creative licence and expression (e.g., blogs, fan fiction). They argued that, as these represent popular culture for today's adolescents, educators should use these features within schooling experiences, thus making school relevant to areas to which students can relate. Gerber, Abrams, Onwuegbuzie, and Benge (2014) conducted a small-scale case study with tenth-grade students with low reading ability using games-based learning, concluding that choice within multiple texts, both digital and traditional, was required to enable 'connected learning', facilitating student relatedness to literacy practices.

If providing interest is fundamental to engagement and motivation, it is important to develop its effective promotion within classrooms. It may be beneficial for future reviews to consider ways in which contemporary reading/literacy materials impact on adolescents' reading engagement, motivation and achievement.

Limitations and future directions

Despite the studies identified being of medium to high quality, the robustness of the designs also presents as a limitation to the conclusions that can be drawn from the data. Only one study evaluated the use of an intervention using a Randomised-Control Trial (RCT; Cantrell et al., 2014), described as a "central feature of the evidence-based movement" (Robson, 2011, p. 11). In addition, Guthrie et al. (2012) argued that the majority of studies within this area have analysed data using structural equation modelling, which limits conclusions regarding causal direction and, in the case of reading engagement, motivation and achievement, what mediates what. Within this review, two of

the studies analysed data through structural equation modelling (Guthrie et al., 2013) and hierarchical linear models (Cantrell et al., 2014). Therefore, more experimental designs would be helpful in identifying what promotes reading motivation and engagement within a reading intervention.

The studies within this review demonstrated mostly positive outcomes in relation to reading motivation. With the exception of two studies (Cantrell et al., 2014; Lau & Chan, 2007), the programmes were universal, targeting students with a range of high, average and low abilities. Therefore, a question remains about what interventions promote motivation for struggling readers. As identified within the literature, this is the most difficult group to engage in reading, due to previous reading failure resulting in disaffection and low self-efficacy. Given the reported impact of not having proficient literacy skills in later adulthood, for example unemployment (OECD, 2013b), addressing these issues through school seems critical.

Implications for practitioners

In light of these outcomes, the following implications may be relevant for practitioners working with adolescents in educational settings in moving towards embedding motivational constructs within the reading domain.

- In supporting adolescent literacy development through consultation and training, practitioners can support schools in the development of adolescent literacy practices to embed components which raise awareness of the role of affective factors on reading engagement, motivation and performance. This may support schools in understanding the contextual complexities of literacy learning (Atkinson, 2009), particularly with adolescents, given adverse outcomes of poor literacy and the difficulties associated with measuring and monitoring motivational and affective factors.
- Practitioners should empower educators to think more about the literacy curriculum and support staff in ways to enable change for a population of reluctant readers within secondary schools.
- Practitioners should continue to disseminate psychological knowledge and promote understanding through sharing evidence-based and practice-based evidence in supporting change, either systemically or working directly with students.
- Within the assessment and identification of reading difficulties, it is important to examine both cognitive difficulties and factors which promote or inhibit reading engagement and motivation. This could be achieved by eliciting student views about the purpose and value of reading, enabling exploration of the importance of reading.

Conclusion

Given the prevalence of reading difficulties amongst adolescents, there is a dearth of literature exploring affective interventions to support reading motivation and engagement — prerequisites, it would seem, to reading achievement (Guthrie & Wigfield, 2000; Guthrie et al., 2012). Biancarosa and Snow (2006) suggested that sufficient knowledge exists about the engagement and motivational difficulties experienced by struggling adolescent readers, and about the types of interventions required to support them. However, whilst current models of reading engagement provide educators with guidance on what instructional practices relate positively to motivation and engagement, more evidence is required to understand how the models can be applied to the most hard-to-reach readers and the feasibility of applying them within a high school context. Furthermore, acknowledgement of the complexity of and interrelationships between the different

motivational theories may also be useful in developing interventions, particularly those that address issues relating to peer value. Finding ways to develop motivation and engagement for struggling readers could also be advantageous, especially given that policymakers often support the notion that literacy is a set of linear skills and do not pay due care and attention to the social and cultural contexts of reading instruction (Piazza & Duncan, 2012). Therefore, developing effective literacy practices that account for social and cultural contexts may represent progress in engaging developing readers.

The current review aimed to establish the contribution of reading interventions that specifically targeted engagement and motivation for struggling adolescent readers. While there are emergent implications, which may have immediate relevance for practitioners, the review has recognised the need for further questions to be addressed in future research.

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