Effective re-teaching

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Abstract

This review focuses on the topic of re-teaching within a formative cycle of instruction, in regular classroom settings. Although re-teaching is assumed integral to effective teaching, learning, and formative assessment, effective re-teaching is but scantily described in pedagogical literature and has been neglected in empirical research. Teachers and school systems seeking to improve student achievement, especially for lower-achieving students, would be well-served by more information and evidence about effective re-teaching. Accordingly, this review follows a defined and replicable protocol, using four questions to explore the extent and detail of existing information about re-teaching and use this information as the basis for suggestions of approaches and strategies for effective re-teaching. The importance of effective re-teaching for students with learning difficulties is emphasised and the potential benefits of effective re-teaching on academic self-concept and motivation for students, and on teacher effectiveness, are discussed. Collecting evidence from practice and the need to quantify the effectiveness of re-teaching are proposed as key aspects of future research and development.

*Keywords*: re-teaching, learning difficulties, effective teaching, formative assessment
Re-teaching can be generically described as post-instructional actions or strategies initiated by teachers to support students who did not learn content, concepts or procedures from ‘first’ teaching and learning activities. Optimally, re-teaching is a second-chance opportunity for both teachers and students, as teachers can refine and target their instruction and students can try again to learn the content, concept, skill or procedure.

Teacher effectiveness research throughout the 1980’s and 1990’s identified being able to adjust instruction and re-teach as important characteristics of very effective teachers (Westwood, 2003; see also, Block & Mangieri, 2003). Presently, many 21st century teachers spontaneously include basic principles of re-teaching in their practice, even though they might not use the term to describe what they are doing (Marzano, 2010). Accordingly, re-teaching would seem to be a common instructional practice and part of the everyday work of teachers. Students with learning difficulties are likely participants in many (but not all) re-teaching lessons, which potentially provide them invaluable opportunity to learn, or learn more of, what their peers already know.

Although re-teaching refers to a set of instructional behaviours or an approach, rather than a singular strategy, it is a topic that is amenable to research, and deserving of a research focus because of its prominence, apparent utility and frequent implementation in contemporary teaching and learning. “Re-teaching is an important skill that teachers have that makes a huge difference when students are confused or giving up” (Saskatoon Public Schools, 2013).

This paper presents a scoping review of available literature (Armstrong, Hall, Doyle, & Armstrong, 2011) about the topic of re-teaching within a formative cycle of instruction. An initial preview of the literature suggested re-teaching was not widely described or reported, and the need for further information about re-teaching was identified. The design of the review aims to provide rigour and enable replication in order to support future development
of an evidence-base around re-teaching. To this end, elements of the processes and procedures of systematic review were used to structure this review (see, for example, Bourke & Loveridge, 2013; Campbell Collaboration, n.d., para. 4), including developing a protocol, providing background information, using a defined research strategy to support replicable findings, and presenting findings according to set and pre-defined questions (Perry & Hammond, 2002).

**Background**

As will be detailed later in this paper, re-teaching as an instructional strategy is fundamentally linked to key contemporary educational frameworks and initiatives, including effective teaching, school improvement, professional collaboration, using data, response to intervention (RtI), and meeting the learning needs of diverse student populations. Moreover, re-teaching is intrinsic to the feedback processes of formative assessment, with many of the positive effects of formative assessment connected to re-teaching (Marzano, 2010).

The kind of re-teaching that is the focus of this review occurs within a formative cycle of instruction (Fisher & Frey, 2008; Stiggins & DuFour, 2009) that seeks to clarify student learning and understanding. This formative cycle of instruction incorporates, for example, outcome-focused initial (differentiated) teaching and learning, formative or interim assessment, re-teaching as needed, then further teaching, learning and assessment. In this context re-teaching is implemented after whole-class or small group initial teaching and formative assessment, but before summative assessments, and with a group smaller than the whole class. As will be further elucidated below, this kind of re-teaching has similarities with the mastery learning approach of corrective instruction.

Re-teaching within such a formative cycle of teaching and learning has potential to provide short-term, targeted and effective support for students experiencing learning difficulties. Black and Wiliam (1998), in their comprehensive review of formative
assessments, report “improved formative assessment helps low achievers more than other students and so reduces the range of achievement while raising achievement overall” (p. 141). When implemented effectively, re-teaching becomes a ‘first line’ of intervention—an early opportunity for students experiencing learning difficulties to avoid falling further behind and instead ‘catch-up’—thence positioning them to better access the ‘main game’ of classroom teaching and learning.

By its very nature re-teaching is a practical, classroom-based process that needs to be both effective and sustainable. It is actually a very important part of teaching, especially for ensuring that the tenets of sustainable learning are met: Learning for all, teaching that matters and learning that lasts (Graham, Berman, & Bellert, 2015). Sustainable learning provides a powerful framework for orchestrating effective teaching practices that respond to individual learning needs and use resources effectively. This includes the employment of re-teaching procedures within a formative cycle of teaching and learning, a process that requires teacher time and attention in addition to initial instruction. A tension exists here because for many classroom teachers the time available for re-teaching is very limited. Re-teaching can, therefore, be considered as a ‘scarce resource’, to be used sustainably through effective, parsimonious implementation.

Although re-teaching is historically connected to the behaviourist theoretical orientation of mastery learning (Kutscher, 2008; Marzano, 2010), its use within a formative cycle of teaching and learning is more closely aligned with cognitivist theories of learning whereby it is essential for teachers to link learning to prior knowledge and to scaffold students’ learning of new content (see, for example, Gagné, 1985). Pedagogically, re-teaching sits largely within the context of direct instruction, more specifically ‘little di’ direct instruction, with its teacher-led instruction using specific language, rather than Direct Instruction (DI) which refers to specific, published commercial programs (McMullen & Madeline, 2014). This is
because of the imperative for teachers to use time-efficient and learning-effective strategies for re-teaching, and the preponderance of empirical findings to support the effectiveness of direct instruction (see, Arief, Liam, & Martin, 2013). To use discovery-learning, problem-based learning or enquiry learning approaches for re-teaching would be time and resource inefficient, and high risk in terms of learning effectiveness (Alfieri, Brooks, Aldrich, & Tenenbaum, 2010; Clark, Kirschner, & Sweller, 2012; Ryder, Tunmer, & Greaney, 2008). Re-teaching can be readily accommodated within the pedagogical approaches of direct instruction, mastery learning and reciprocal teaching (Walberg, 2007).

Re-teaching is a commonplace instructional strategy that has been used for decades (Marzano, 2010). Although it can be aligned with approaches that do have empirical support, there is no supporting evidence for the effectiveness of re-teaching and limited description of it in the literature. Kutscher’s (2008) statement, that re-teaching is advocated in the literature but only fleetingly described, seems to have substance. A hand-search of teacher texts about instruction and effective teaching suggested they provide little or no detail about re-teaching. For example, in the text ‘Explicit Direct Instruction: The Power of a Well-crafted, Well-taught Lesson”, Hollingsworth and Ybarra (2009) strongly advocate checking for understanding and emphasise that in independent practice students should not practice errors, but do not describe re-teaching. Similarly, Rosenshine (2012) identifies research-based strategies for effective teachers which emphasise checking for understanding but information about what to do for those students who did not learn the material during its initial presentation is not provided; and the What Works Clearing House practice guide for reading (Gersten et al., 2008) emphasises the use of progress monitoring to identify students needing additional instruction but offers no further information about specific teaching approaches or strategies to use during this important time. This apparent lack of information and evidence about re-teaching and how it is effectively implemented is both surprising and concerning.
Accordingly, the purpose of this review is three-fold – first to examine existing literature about re-teaching; second, to begin to re-position re-teaching away from a diffuse set of instructional practices that are ‘assumed knowledge’ for teachers, towards a more prominent and defined instructional approach that can be strategically and effectively implemented; and, third, to highlight re-teaching as an instructional practice of particular relevance for improving the learning and participation of students experiencing learning difficulties. In the following sections, this paper describes its research methodology, answers four review questions, considers the study’s limitations and points for discussion, and then suggests focus areas for further research and development.

**Methodology**

In the development stage of this review it soon became apparent that delimiters needed to be identified to ensure the focus was relevant to contemporary pedagogy in. In some contexts re-teaching is considered in relation to repeating a course, as a catch-up option for missed lessons, as additional lessons, e.g. summer school, as end of term or unit revision, or as an activity delivered by peers, teacher assistants, parents or volunteers. Re-teaching is also sometimes considered in relation to micro-teaching, co-teaching and pre-service teacher training. All of these contexts were excluded from this review. In the current discussion re-teaching is specifically considered as a practice occurring within regular school and classroom settings; a procedure undertaken by classroom teachers (this may include support teachers or co-teachers) and incorporated into classroom routines within a lesson or a series of lessons.

**Review Questions**

Four questions were developed to guide the investigation reported in this review. These questions are:

1) What is re-teaching?
2) What empirical evidence is available in relation to re-teaching?
3) What strategies and approaches are used in effective re-teaching?
4) How is effective re-teaching connected to key contemporary pedagogical approaches?

Search Strategy

Articles were located by conducting a search of the A+ Education, Education Research Complete, Education Resources Information Center, and PsycINFO databases. No date limits were used when initially searching. Each database was searched using the descriptor (re teach* OR re teach* OR re taught ) NOT ( religio* OR ESL OR EFL OR pre-school* OR preschool* OR "early childhood" OR "higher education" OR college OR bilingual OR bi-lingual). The search returned a total of 283 matches, excluding duplications. The Education Research Complete and PsycINFO Thesauri were both checked, and the terms reteach / re-teach were not included in either thesaurus, nor were suggested terms provided. Internet searches using the Google and Google Scholar databases, with the terms ‘re-teach OR re-teaching’ and ‘reteach OR reteaching’, identified additional relevant sources. A hand-search of relevant library catalogues, including TROVE, did not reveal any other relevant articles, reports or books. The limited quantity of relevant articles and the potential contribution of practice-based reports to the investigation meant that all available articles were considered for further selection.

The set of 283 matched articles were initially previewed by title, with 87 articles excluded because they were either not relevant to teaching and learning (e.g. fire safety, aphasia), or directly related to one of the exclusion terms mentioned above (e.g. RE [religious education] teacher). The remaining articles were then abstract-reviewed and a further 135 articles were excluded based on the following criteria: Related to previously excluded concepts, topics not related to re-teaching (for example, using e-portfolios for assessment,
computer-based instruction), evaluative reports of a commercial program, school or system reports that do not focus on re-teaching, practice guides published by educational authorities prior to 1995, dissertation theses dated prior to 1995, and studies focused on variables other than re-teaching or on very specific topics such as re-teach lessons for algebra.

The remaining 61 potentially relevant articles were carefully scrutinized, in most cases with the full text reviewed. These articles were allocated into two groups: (i) a set of 43 articles (see Appendix A) that either relate to exclusion criteria previously stated or mention re-teaching but lack any specific detail (having two or less full sentences about re-teaching); and, (ii) another set of 18 articles (see Appendix B), perceived as relevant to the research questions of this investigation. Relevant articles from the search of Google and Google Scholar (see Appendix C) were also scrutinised. Articles listed in Appendices B and C were considered in the review (even when not cited).

It is interesting to note the existence of the group of 42 reports listed in Appendix A, that matched search terms, most often included specific mention of re-teaching, and often had ‘re-teaching’ (or variations) as a descriptor or a word in the abstract, yet these reports did not provide any information about re-teaching. Non-specific phrases like ‘re-teach when necessary’ were common in such articles. This adds to the previous claim that re-teaching is referred to in pedagogical literature, but not described in any detail.

**Question 1: What is re-teaching?**

In the set of articles selected for this review, two were notable because they contained the most specific information about re-teaching: “Reviving re-teaching” (Marzano, 2010), and “The rest of the story” (Guskey, 2007), are both descriptive reports. Although the discussion that follows does take issue with some points made in these articles, their contribution to informing this investigation is acknowledged.

**Defining Re-Teaching**
Re-teaching as an instructional approach has links to the mastery learning literature of the 1970’s and 1980’s (e.g. Bloom, 1971; Hunter, 1982), with its implicit assumption that individual students should learn new curriculum content in units and not progress to new material until the preceding unit is ‘mastered’. Thomas Guskey, who developed a body of work on mastery learning (see, for example, Guskey, 2010, 1990, & 1987; Guskey, Passaro, & Wheeler, 1995; Guskey & Gates, 1986), included in this work a focus on ‘corrective instruction’, a tenet of mastery learning which has clear associations with re-teaching.

Guskey’s (2010) claim that high quality corrective instruction is not the same as re-teaching, “which often consists simply of restating the original explanations louder and more slowly” (p. 55), rests on a literal interpretation of re-teaching, as teaching again. This kind of re-teaching does happen, as evidenced in the report of Goertz and colleagues (Goertz, Nabors Oláh & Riggen, 2009), who describe classroom observations of teachers presenting re-teaching as procedural steps that essentially re-work initial teaching. This is thought to be largely ineffective because learners who did not ‘get it’ with first teaching are still unlikely to learn if same information is presented again in the same way (Guskey, 2007; Goertz et al., 2009)

However, a key point in attempting to determine a definition of re-teaching is that these descriptions actually describe ineffective re-teaching, and, conversely, available literature about effective re-teaching emphasises that when re-teaching, teachers need to employ a different approach from that used in the initial teaching (for example, Craft & Bland, 2004; Marzano, 2010; Saskatoon Public Schools, 2014). With this acknowledgement in place the discussion here can justifiably proceed to incorporate aspects of Guskey’s informative work on corrective instruction. However, a key definitional point can be considered established—effective re-teaching entails presenting some or all of the information from initial teaching again, but using a different approach.
Although Marzano (2010) proposes that re-teaching occurs in two key contexts: (i) when introducing new content; and, (ii) when reviewing previously taught content, in the context of this discussion it is necessary to highlight the differences between these contexts and to propose that re-teaching is different to revision, which aims to support students to recall information they already know, often in preparation for future learning or assessment. Conversely, re-teaching is based on learning information that is largely novel and unknown to the learner, as identified through assessment or monitoring (Goertz et al., 2009; Kutscher, 2008; Marzano, 2010). Students targeted for re-teaching do not know, do not know well enough, or cannot proficiently do, what their classmates know or can do after initial teaching. Revision and re-teaching have different pedagogical characteristics.

Whilst much of the available literature on re-teaching directs focus to student learning, student errors or student achievement (for example, Fawson & Peterson, 2011; Frye, 2010; Lalley & Miller, 2006; Walberg, 2007), a crucial consideration for sustainable, effective re-teaching is the impact of initial teaching. Guskey (2003) asserts that if more than half the class did not learn after initial teaching, then “the teacher’s method of instruction needs to improve” (p.9). However, even when quality, differentiated initial instruction is delivered, not all students may learn enough to achieve the instructional goal and re-teaching is required. This does not necessarily suggest that initial teaching was poor, or that the students who ‘did not get it’ are in some way deficient. Rather, with effective re-teaching both teachers and students have the opportunity to ‘get it right’ the second time, potentially building resilience and self-efficacy for both teachers and students.

Bambrick-Santoyo (2010) quotes a middle school student to illustrate why it is important for teachers to strive for effective second-chance opportunities to learn: “The teachers use assessment to become better teachers. They see what they did not teach very well and re-teach so we can learn it better. So we end up learning more” (p.69). Whilst it
certainly is important to consider student learning and student errors, effective re-teaching also requires teacher reflection about the aspects of initial teaching that, when re-taught, could be extended, enhanced, augmented or otherwise revised to better meet the individual learning needs of the students participating in the re-teach lesson.

Whilst re-teaching can occur during initial instruction, especially in conjunction with student response systems such as ‘thumbs-up, thumbs down’ or clickers (see, Marzano, 2010), this ‘mid-flight’ re-teaching often occurs fleetingly, and is not specifically planned. Examples of incidental re-teaching include briefly delivering another explanation, revising an example, or re-stating using simplified vocabulary. In contrast, re-teaching after initial instruction and formative assessment needs to be considered as a distinct instructional step, requiring specific planning (Guskey, 2007). Although planning for re-teaching can be included as part of the initial lesson plan (see, for example, Craft & Bland, 2004), effective re-teaching requires further planning in order to specifically target the content and students’ learning needs, and to organise how the instruction can be effectively delivered.

Only limited information is available in the literature about the structure and procedures of an effective re-teaching lesson. Implicit (evidenced, for example, in Guskey, 2007; Marzano, 2010; and, Saskatoon Public Schools, 2013) is the foundational notion that re-teaching needs to be both teacher-directed, in that the teacher determines the content focus and participant selection based on formative assessment data, and teacher-led, in that the teacher delivers instruction and directs learning activities. Re-teaching lessons require a range of strategies and approaches, not just a single activity (Guskey, 2007), delivered with a brisk pace and of relatively short duration. Further, effective re-teaching lessons consist of instructional input accompanied by guided and independent practice activities (see, for example, the description of Mr Tanabe’s re-teaching in Guskey, 2007, p. 33). Guskey (2007) lists a range of “corrective activities” (p.31) but indicates that re-teaching as a corrective
activity occurs only with the teacher. Other listed corrective activities include workbooks and study guides, academic games and computer activities but, notably, these relate to practice rather than instruction.

Learning with peers could feasibly be incorporated into re-teaching routines using approaches such as peer demonstration or peer ‘think-alouds’ as a small component of the instructional stage, and through pair or small group activities, such as reciprocal teaching (Palisncar & Brown, 1984), during the practice stage. However, this needs specific direction and careful monitoring by the teacher to ensure that students learn correct information from each other and accurately practice, rather than practicing errors.

Arriving at a definition for re-teaching is challenging because it is a diffuse concept. However, the succinct description, proposed by Saskatoon Public Schools (2013) captures many of the key elements: “Re-teaching is responding to a learning problem right away, using a new method” (para. 4). The following extended description is though more suitable for the purposes of this paper: Effective re-teaching is aligned with assessment and occurs within a formative cycle of teaching and learning. It is directed and delivered by a teacher, to a small group of students, after initial instruction and formative assessment and before summative assessment. Selection of students to participate in a re-teaching lesson is based on data derived from the formative assessment. During the re-teach lesson the teacher focuses instruction on the same goal as the initial instruction but ensures that a different approach to teaching and learning is used; one that is tailored to the learning needs of the students in the group.

Effective Re-Teaching

Effective re-teaching occurs as part of regular instructional routines rather than as a ‘stay behind’ or homework activity. Effective re-teaching is implemented as close to the time of initial instruction as feasible and not as an end-of-week or end-of-unit catch-up activity. To
be effective, re-teaching should be rewarding rather than punitive in character (Kutscher, 2008) and should be presented to students as a positive opportunity to learn successfully. This will require that the teacher present information incrementally, in small chunks, with regular checks for understanding. Further, students should not be selected to participate in re-teaching lessons if it is not feasible that they can achieve, with scaffolding, the pre-determined instructional goal. In such circumstances working on individual program goals or adjusted tasks would be more appropriate.

As has been implicit in much of the discussion to this point, re-teaching and assessment are inextricably linked—assessment always accompanies re-teaching (Marzano, 2010). Effective pre-assessment, monitoring student understanding during initial instruction, and formative assessment after initial instruction all provide the teacher with information that influences the content and selection of students for re-teaching. Additionally, the opportunity for a second attempt at formative assessment needs to be made available to students after re-teaching (Frye, 2010; Guskey, 2010; McLane, 2013). This important step provides an opportunity for students to demonstrate their new understandings and experience successful learning in the same ways as their peers did after initial teaching, and a chance for teachers to gauge the impact of the re-teaching strategies and approaches on student learning.

The characteristics of effective re-teaching are described, from both student and teacher perspectives, in Table 1 below.

| Question 2: What Empirical Evidence is Available in Relation to Re-Teaching? |

Empirical research about re-teaching is scant. Perhaps this is because re-teaching is not a singular approach—certainly many strategies and approaches used in re-teaching are used in initial instruction as well—but as previously posited, re-teaching is a specific and important instructional context. The search identified five articles which included re-teaching
in some way as part of their empirical design. A brief review of these six studies is now be presented.

A study by Akyüz and Berberoğlu (2010) aimed to investigate the relationship between various mathematics teacher and classroom characteristics and students’ mathematics achievement. The finding related to re-teaching was that it had a negative impact on mathematics achievement, with the explanation that the students who received re-teaching were low-achieving students, a factor which on its own impacts achievement. This finding does not add to existing information about re-teaching, other than suggesting the need for future studies about re-teaching and student achievement to include the consideration of pre-existing factors in the study design. Of more interest was a point in the discussion linking re-teaching to grouping students according to academic ability, and the comment that “the re-teaching practice seems (sic) bringing ability grouping into the school system again” (p. 91). Whilst the veracity of this statement is perhaps questionable, the authors assertions that the grouping required for re-teaching may lead students involved to develop negative academic self-concept does suggest the need for caution in the way re-teaching is presented to and perceived by students.

In their report of an exploratory study into how interim assessments (a type of formative assessment) are actually used by teachers, principals and districts, Goertz and colleagues (Goertz et al., 2009) claim that very little research exists about how individual teachers actually analyse and use interim assessment data to inform practice and instruction in mathematics. Relevant findings were that the information from interim assessments did not substantially change teachers’ instructional practices, and although the assessment results influenced teacher decisions about organisational factors — whom (students) and what (content) to re-teach—it did not influence teacher decisions about how to re-teach, with more than half of the participating teachers failing to make fundamental changes to the way the
content or the students were taught. The study highlighted distinctions between re-teaching procedural steps, deemed unlikely to lead to improved student learning, and re-teaching for conceptual understanding that involves “instructional change strategies” (p.172) such as additional representation of concepts and connecting prior learning to current instructional goals.

In a qualitative case study, Kutscher (2008) examined, as one of several factors, re-teaching in mathematics for elementary students in the context of decreasing achievement scores. In the school district under study, re-teaching was prescribed in district policies as an intervention strategy for students who do not demonstrate proficiency in pre-specified mathematics objectives. Site observations, however, showed that re-teaching was usually implemented as an ad-hoc and reactionary process, often with the focus on re-testing. The author noted the lack of any district information about how to effectively re-teach and concluded that more information for teachers about re-teaching should be made available.

The effectiveness of pre-teaching and re-teaching in mathematics for third-grade students was compared in a study reported by Lalley and Miller (2007). Pre-teaching involves organised instruction in component skills or concepts of an upcoming lesson prior to instruction with the whole class (Kameenui & Carnine, 1986), a supplemental approach for students deemed likely to struggle with the new information or task. In this study re-teaching was presented as a supplemental activity delivered by specialist intervention teachers to small groups of low-achieving students, focusing on unmet objectives identified by the classroom teacher. This intervention was delivered after school twice per week for 18 weeks. The study’s findings included that both methods of instruction resulted in improved student achievement but, notably, though the academic self-concept of the pre-teaching group significantly improved, this change was not evident for the re-teach group. The authors posit that, as re-teaching occurs after difficulty or failure in the classroom, low-achievers perceive
themselves as “incapable of academic tasks” (p.757). This point deserves further consideration in developing guidelines for effective re-teaching.

A study by Steve Graham, Karen Harris and colleagues (Graham, Harris, Fink-Chor sempa & MacArthur, 2003) identified re-teaching as one of four commonly used instructional activities that teachers use when working with struggling writers. In their survey of 153 first-through-third grade teachers, 78% of teachers reported that they implemented re-teaching of writing skills or strategies at least once a week or more, and that this practice was implemented more often with struggling writers than with average writers. The methods teachers used to re-teach skills and strategies were not described, although the finding that teachers placed a greater emphasis on providing instructional adaptations for writing mechanics (e.g. handwriting, spelling and grammar) than for writing processes (organisation, planning and revising) suggests a procedural focus.

**Question 3: What Strategies and Approaches are used in Effective Re-Teaching?**

This question again provokes consideration of the idea that effective re-teaching is not dissimilar to what Westwood (1993, p.2) calls “the tried and true basics of skilled teaching” and that elements of established evidence-based strategies are included in effective re-teaching. However, as the above discussion has suggested, effective re-teaching requires a sub-set of strategies and approaches closely aligned with the purpose of the re-teaching lesson and the needs of the learners. Time efficiency, for both teachers and students, is implicit in this process as students need to learn each instructional goal relatively quickly so they can further participate in planned teaching and learning sequences alongside their classmates, and because time constraints for teachers are considerable.

Effective re-teaching requires direct instruction and strategy instruction. Swanson (2000) drew upon a series of influential meta-analyses of learning outcomes from different types of teaching to establish that direct instruction and strategy instruction have the greatest
potential to improve learning outcomes for students with learning disabilities, and that, when combined, these approaches are particularly powerful and effective. Clearly, students who need to participate in re-teaching lessons do not necessarily have learning disabilities, nonetheless this finding is informative when teachers are considering how to effectively re-teach using evidence-based approaches.

Direct instruction and strategy instruction activities in a re-teaching lesson necessarily start by making connections to what the learners already know, then utilise instructional techniques such as modelling and demonstration; use of manipulatives, graphic organisers, and effective teacher questioning; ‘chunking’ new information into small components; providing more or different explanations (Marzano, 2006, 2010); re-working examples; textbook revision; and, the use of visual representations (Kutscher, 2008). The use of ‘think-alouds’ should also feature in re-teaching lessons (Saskatoon Public Schools, 2013). This strategy, and others such as ‘think, pair, share’ allow for peer-learning prospects, with careful teacher monitoring to ensure students are learning correct information from each other. Opportunities for student self-monitoring, of both learning and learning behaviours, can be effectively incorporated into re-teaching lessons.

Depending on the content area targeted, effective re-teaching can readily incorporate strategies such as reciprocal teaching (Palinscar & Brown, 1984), the 3H strategy (Graham & Wong, 1993), brainstorming, and Know, Want-to-know, Learned (KWL) charts (Ogle, 1986), as well as subject-specific strategies such as labeling graphics in science (Frye, 2010). Deliberate practice, utilising specific activities and feedback to deal with errors or misunderstandings (Ericsson, Krampe, & Tesch-Römer, 1993; Pegg, 2013) and repeated practice opportunities, using a variety of methods, for example, computer assisted, peer activities, games and puzzles, and workbooks and study guides (Guskey, 2007), should be incorporated into every re-teaching lesson. As discussed above, re-teaching lessons also need
to incorporate repeated or parallel forms of formative assessment, affording students the chance to demonstrate achievement of pre-specified learning goals. Accordingly, an effective re-teaching lesson would have three key components, being (i) the instructional phase, consisting of direct instruction and strategy instruction; (ii) the practice phase; and, (iii) the assessment or performance phase - with phases occurring sequentially or iteratively.

An approach for implementing re-teaching often advocated in the literature is to schedule re-teaching lessons at the same time as enrichment lessons (e.g. Fawson & Peterson, 2011; Frye, 2010; Guskey, 2010, 2003; Marzano, 2010). This approach has obvious organisational advantages for teachers and school administrators. However, in light of Lalley and Miller’s (2007) finding that participating in re-teach lessons did not have a positive impact on academic self-concept, and Akyüz and Berberoğlu’s (2010) perception that re-teaching groups were streaming under another guise, the organisational framework of ‘re-teach and enrich’ requires careful consideration lest re-teaching be perceived as a activity for under-achievers only, and one that precludes students from participating in the more interesting, innovative or higher-order aspects of learning. As an example, enrichment activities that were offered concurrently with re-teaching lessons at one site included computer access, sports and arts activities and watching movies (Fawson & Peterson, 2011). Under such circumstances having to participate in re-teaching lessons could readily be perceived by students as a punitive, negative experience, with commensurate impact on motivation and academic self-concept.

Frye (2010) offers indications of a way forward from this dilemma by suggesting that teachers work with students to help them see re-teaching as simply another opportunity to learn the material, that it is not always the same students who participate in re-teaching, and that by closely aligning re-teaching with learning goals students can become motivated to achieve these goal and feel successful. When re-teaching is presented to students as an
opportunity to learn more rather than a consequence of failure, it has potential to build, rather than undermine, students’ academic self-concept and potentially interrupt cycles of learned helplessness and poor self-efficacy that can negatively impact on students with learning difficulties (Diener & Dweck, 1978; Wong, 1996).

**Question 4: How is Effective Re-Teaching Connected to Key Contemporary Pedagogical and Professional Approaches?**

The proposal that effective re-teaching is closely aligned with formative assessment has already been made. Ideally, teachers develop lessons to reflect learning outcomes or standards, then provide quality learning experiences and, during and after this initial instruction, implement formative or interim assessment. As Guskey (2008), Marzano (2010) and Goertz and colleagues (Goertz et al., 2009) all propose, it is what happens next, feedback and re-teaching, that determines the overall effectiveness of the cycle of instruction.

The links between direct instruction and effective re-teaching have also already been proposed, and the key components of a re-teaching lesson identified as instruction (direct instruction and strategy instruction), practice and re-assessment. The Gradual Release of Responsibility model (Pearson & Gallagher, 1983; see also, Fisher & Frey, 2008) encompasses these essential components, with its catch-phrase of ‘I do, we do, you do’, and thus serves as a framework for an effective re-teaching lesson.

Many initiatives and resources advocating for ‘school improvement’ and enhanced student achievement identify formative assessment, teacher collaboration and effective use of data as imperative (see, for example, ACER, 2012; Bambrick-Santoyo, 2010; Fullan, 2008; Jensen & Sonnerman, 2014; Walberg, 2007; also many of the titles in Appendix A), with an implicit link to effective re-teaching. Effective re-teaching is evoked in Chappuis’ (2015) key question “How can I close the gap?” (p. 13) and its associated strategy of focused teaching, and in the critical question posed by DuFour, DuFour, Eaker and Karhanek (2004), “How do
we respond when kids don’t learn?” (p.29). Accordingly, the link between formative assessment and the work of teacher professional learning teams is clear—communities of teachers are increasingly required to apply rigour in collecting and using data to ascertain learning trends within their cohort and to identify content and students in need of re-teaching. A more explicit focus on effective re-teaching in such publications would be beneficial in supporting teachers with ‘what comes next’.

Although RtI is essentially a preventative model (Vaughn & Fuchs, 2003), effective re-teaching is consistent with the core RtI component of progress monitoring, whereby teachers implement curriculum-based measurement (as formative assessment) and use data to make meaningful instructional adjustments, including re-teaching. Within RtI, effective re-teaching would, therefore, be a distinguishable part of high quality Tier 1 implementation (initial instruction), and could also feature in supplementary Tier 2 and Tier 3 interventions.

Within the Nationally Consistent Collection of Data (NCCD) framework (DET, 2014a) which specifies levels of reasonable adjustments to be provided for students with disability in Australian schools, the participation of such students in re-teaching lessons, as described in this paper, may be provided within quality differentiated teaching practice, or it can be recorded as a supplementary adjustment. Supplementary adjustments are “provided when there is an assessed need at specific times to complement the strategies and resources already available (for all students) within the school” (DET 2014b, para. 1). Accordingly, re-teaching lessons can be recorded as adjustment to teaching and/or adjustment to learning materials.

In light of the evident connections between effective re-teaching and these key contemporary educational frameworks and initiatives it is somewhat surprising that professional literature so rarely addresses it (Marzano, 2010). In fact re-teaching could be said to be more important in the current educational context than it has ever been and the
need for explicit information about effective re-teaching for teachers, principals and educational authorities is pressing.

**Limitations of this Review**

The limitations of this review are primarily in relation to issues of definition and methodology. Firstly, whilst the claim that re-teaching has not been widely discussed in the literature or empirically investigated in any substantial way certainly is defensible, this does not substantiate a view that very little is known about re-teaching. Teachers ‘do’ re-teaching as part of their daily work, so clearly practice-based evidence needs to be collected and considered to complement existing available information. Secondly, the investigation is somewhat hampered by the blurred definitions between effective initial teaching and effective re-teaching. Whilst the ‘what’ of re-teaching, that is, the content and strategies, may have similarities with initial instruction, it is the way re-teaching can be effectively implemented—‘how’ and ‘how best’ to organise and deliver re-teaching—that requires further clarification. Thirdly, limiting the search to the term ‘re-teaching’ excluded related concepts such as feedback and practice, which are inextricably linked to effective re-teaching and may have provided further information. Further reviews of re-teaching may benefit from including these terms in the scope of the investigation. Finally, a more thorough search of disciplines other than education may have also yielded relevant information. Therefore, the results presented here need to be interpreted with some restraint.

**Discussion**

Important aspects of effective re-teaching not mentioned specifically in the literature are the cognitive and metacognitive components of re-teaching. Re-teaching may feasibly be more effective when it incorporates not only a focus on what needs to be learned but also how best to learn it, suggesting a clear place not only for learning strategies, as indicated above, but also for metacognitive thinking. Incorporating structures in re-teach lessons to
make thinking explicit to students, in relation to planning, monitoring and evaluating their learning would, as Frye (2010) suggests, improve student motivation and help ensure that participating in re-teaching supports students to develop a greater sense of agency over their own learning and achievement. Participating in effective re-teaching can build student resilience as students learn that mistakes are part of the process of learning (Saskatoon Public Schools, 2013) and that persistence and stamina are often required when learning new information.

Both Frye (2010) and Guskey (2007) describe scenarios where the need for re-teaching lessons diminish as, within the practice of formative teaching and learning cycles, teachers get better at teaching and students get better at learning. Importantly, encouraging self-regulation of learning (Graham & Berman, 2012) in re-teaching lessons, for example, having students monitor their learning behaviour and progress, or examine their attributions for success or failure, as well as ensuring the lesson is structured so students can succeed, will do much to address the concerns about and student academic self-concept.

There is also a need to consider teacher mindsets and build teacher capacity with regard to re-teaching. In the current context where, throughout the profession, there are clarion calls for ‘school improvement’ and ‘increased teacher effectiveness’, caution is required so that teachers do not unjustifiably perceive themselves and their work as ‘unimproved’ or ‘ineffective’. Teacher effectiveness is not determined by what teachers do, rather by what their students are able to do after instruction (Guskey, 2003). In concert with this view, re-teaching needs to be presented to teachers as something that needs to happen when students need more or different support to learn, that this can occur even after quality, differentiated initial teaching, and that even the ‘best’ teachers need to re-teach at times. School administration systems can support a positive teacher mindset for re-teaching, and in effect build teacher resilience, by providing time for teachers to plan, collaborate and organise for
re-teaching and by facilitating professional learning opportunities to support effective approaches for re-teaching.

Students experiencing learning difficulties potentially have the most to gain from effective re-teaching and most to lose from ineffective re-teaching. These students are often inherently disadvantaged as learners and then experience further disadvantage as a result of missed opportunities to ‘catch up’ when re-teaching is delivered ineffectively or not at all. Effective, efficient re-teaching delivered in the classroom in a timely manner within a formative assessment cycle has great potential as an ‘early intervention’ for students who would otherwise fall further behind. Without effective re-teaching students who did not learn from initial teaching will struggle to participate in subsequent teaching. As stated in the documentation published by Saskatoon Public School (2014b), “Teachers who can re-teach are much more successful in helping all students succeed, which is why learning to re-teach well is very important” (para. 8).

**Future Research**

The current approach to re-teaching, with the lack of literature and evidence to support effective practice, suggests it is either a process of trial and error or ‘assumed knowledge’ for teachers. Accordingly, the scarce resource of teacher time for re-teaching is quite possibly being used naively, with varying effect. A comprehensive research agenda that can deliver evidence and illustrations of practice needs to be developed.

The design of future research needs to consider the complexities of establishing evidence-based practice in education (Hempenstall, 2014; van Kraayenoord, 2006). The model of evidence-based practice proposed by Bourke and Loveridge (2013) may provide a way forward, and is particularly informative in this context because it incorporates practitioner knowledge (from teachers who implement effective re-teaching), research evidence, and perspectives from individuals impacted by the practice (students). The premise
that teachers are ‘doing’ re-teaching as part of their daily work suggests it would be fruitful to observe and record practice-based evidence, that is, how teachers are organizing and implementing re-teaching, and to gather information from students who participate in re-teaching. In the context of practice-based evidence, the effectiveness of re-teaching needs to be quantified in relation to student achievement, academic self-concept and teacher professional learning and collaboration.

Future research could also focus on how re-teaching can be effectively and sustainably implemented so that it builds capacity for both students and teachers. Identifying re-teaching strategies for different types of learning—discrimination learning, factual learning, rule learning, procedural learning, conceptual learning, problem-solving and thinking skills (Mastropieri & Scruggs, 2002. p.32), and for different content areas, would be most informative for practitioners. Comparisons of the effectiveness of re-teaching lessons that do or do not contain metacognitive strategies could also be similarly informative.

Further, it would be instructive to investigate effective use of technology within re-teaching lessons, and specific re-teaching approaches for particular groups of students (e.g. students for whom English is an additional language or dialect, different ages/grades, or students with disability). Alternatively, investigations into whether the additional time used for re-teaching is effective or whether it could be more productively used for another assistive activity such as computer-assisted instruction or peer-to-peer learning (R. E. Slavin, personal communication, May 6th, 2015), would support a balanced research agenda.

**Summary and Conclusion**

The initial motivation for this research came from the experience of working with teachers who collaboratively implemented a formative cycle of instruction and required further information about what to do when students did not learn, and the finding that such information was not readily available. Accordingly, this review utilised a specific protocol to
research effective re-teaching, with available information identified and synthesised, and areas of focus for future research and development proposed.

Effective re-teaching involves re-presenting information from an initial lesson using different strategies and approaches, ones that are responsive to both the learning needs of the student and the demands of teaching the pre-specified content. Effective re-teaching lessons contain three distinguishable phases, being instruction featuring direct instruction and strategy instruction, deliberate and monitored practice, and re-assessment that provides opportunity for students to demonstrate achievement and teachers to evaluate their impact. Within these three phases metacognitive strategies should be incorporated to support students’ understanding about how they effectively think and learn, building academic self-confidence.

The potential impact of effective re-teaching for students with learning difficulties cannot be over-stated as it provides them with a first, and sometimes last, opportunity to catch up and then successfully continue with learning, potentially preventing failure, promoting success and providing motivation for further learning. Conversely, the missed opportunities of poorly-delivered or not-delivered re-teaching may well have the opposite effects. More broadly, effective re-teaching also has potential as a focus for collaborative professional learning and school improvement initiatives.

A more prominent and clearly expressed position for re-teaching as a sustainable, accessible and relatively low-cost pedagogical approach is warranted. Effective re-teaching is a scarce yet potentially powerful teaching resource which should be thoughtfully and strategically implemented. This review provides a platform to further develop an evidence base about the strategies and approaches of effective re-teaching.
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### Effective Re-Teaching: Who, What, When and How

<table>
<thead>
<tr>
<th>Students’ Participation</th>
<th>Teacher Considerations</th>
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| **Who** | - Participation determined by formative assessment results  
- Those who don’t know it, don’t know it well enough, or can’t proficiently do it AND who are likely to learn during re-teaching  
- Small flexible groups, pairs or individual | - The class teacher or collaborating teacher  
- The most experienced / effective teacher for the specified content (e.g. the teacher whose class achieved highest on the formative assessment task)  
- The teacher who knows the students and can best adapt the instructional approach to be responsive to student learning needs |
| **What** | - Perceived as ‘Take 2’ or ‘second chance’  
- Receiving direct instruction in concepts, facts and rules, procedures and/or skills, including basic academic skills  
- Guided practice for accuracy  
- Independent practice for fluency  
- Some peer activities  
- Short achievable tasks with a tangible outcome  
- Correct and accurate demonstration of learning through re-assessment  
- Successful learning by virtue of effort and task persistence | - A planned sequence of instruction and practice of relatively short duration, presented differently to initial instruction  
- Same instructional goal as initial lesson, focusing on one or several components  
- Utilising enhanced, extended, or augmented teaching and learning activities  
- Teacher-led direct instruction, featuring appropriate cognitive and meta-cognitive strategies to scaffold student learning  
- Exit assessment/s being parallel form of the whole-class formative assessment task, or a different assessment task that allows students to demonstrate successful learning |
| **When** | - As close to the initial instruction lesson as possible  
- Within the regular learning environment as part of regular routines  
- Not as homework or extra work  
- Not instead of more desirable learning activities available to other students | - After high quality initial instruction and formative assessment  
- After reflection on the validity of the assessment data and the parts of initial teaching that were not effective for this group of learners  
- Before students practice errors or experience repeated failure |
| **How** | - High level of engagement  
- Participate by listening, thinking and doing (practice activates)  
- Produce an artefact as demonstration of learning (oral, written or otherwise recorded responses or skill demonstration)  
- Demonstrate performance of the instructional goal | - Fast-paced with opportunity for student interaction  
- Teacher-led direct instruction, not enquiry, discovery or problem-based learning  
- High expectations for student participation, engagement and achievement  
- Learning presented in small increments with opportunity for success at each step  
- Utilising evidence-based strategies |
## Appendix A

Articles from databases search that mention re-teaching but deemed not relevant to the questions of this review.

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| 43. Wood, W. R. (1985). *Habituated obsolescence or the pursuit of individual*
Appendix B

Articles from databases search deemed relevant to the questions of this review.


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Appendix C

Articles from searches of Google and Google Scholar databases deemed relevant to the questions of this review.

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