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Competency and affective skill outcomes for 11–19-year-olds through progressive and reconstructionist pedagogies: a systematic review

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ABSTRACT
This systematic review identifies how progressive (student-driven), community-facing (reconstructionist) pedagogies can be used by teachers with 11–19-year-old students to help provide students with the competencies and skills they need to achieve the Organisation for Economic Development's (OECD) Learning Compass 2030. Whilst previous reviews focus on individual pedagogies which can be delivered in different ways depending upon context, this review synthesises studies into the key pedagogies, which are progressivist and reconstructionist: project-based learning; youth participatory action research; and citizenship education with service learning. A deductive analysis of student outcomes of 23 included studies demonstrates how these pedagogies help develop a range of students' competencies and affective skills. The evidence is strongest for attainment, self-regulated learning and motivation and weakest for agency, collective action and feeling part of a group, where more research and more clearly defined terms are needed. Disadvantaged students are shown to benefit, although more comparative research is needed. This paper recommends policy reform at national level to include progressivist and reconstructionist pedagogies as well as engagement with organisations offering extra-curricular project work for students to ensure the Learning Compass 2030 is realised.

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Project-based learning; youth participatory action research; competencies; affective skills; systematic review

Introduction

The Organisation for Economic Development's (OECD, 2022) Learning Compass 2030 builds upon previous research that identifies how education policy in many countries is not providing students with the skills they need to "thrive in an interconnected world" (OECD, 2020), including individual "creative problem-solving skills" (OECD, 2014) and "collaborative problem-solving skills" (OECD, 2017). Central to the Learning Compass 2030 is "student agency", which is defined as students having "the ability and the will to influence

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positively their own lives and the world around them" through being able to "set a goal, reflect and act responsibly to effect change" (OECD, 2022).

One country that scores more highly than others in the OECD's research is Singapore (2014, 2017) and a link is made by the OECD (2020) between student outcomes in Singapore and the mandating of "project-work" as pedagogy in their curriculum policy. Project-work is divided into the four areas of "communication; collaboration; knowledge application; independent learning" and is an "interdisciplinary learning experience that provides primary and secondary school students with the opportunity to synthesise knowledge from various areas of learning and apply it to real-life situations" (MoE Singapore, 2022). As a result, the Desired Outcomes for Education state that children schooled in Singapore should be: "confident persons; self-directed learners; active contributors; and concerned citizens" (MoE Singapore, 2022).

The emphasis on outcomes that relate to agency, skill development and changing society speaks to fundamental ideas about the purposes of education. For Schiro (2007), these ideologies have two key dimensions: either focussing on the knowledge to be learnt through a pre-defined curriculum (The Scholar Academic Ideology) or focussing on the "growth of individuals" (The Learner Centred Ideology); and either focussing on preparing students for the workplace (The Social Efficiency Ideology) or taking "action" to prepare students to "reconstruct society" (The Social Reconstruction Ideology). These two dimensions have been arguably more concisely defined by Morrison and Ridley (1989). Here the term The Scholar Academic Ideology becomes "classical humanism" and The Learner Centred Ideology "progressivism"; whilst The Social Efficiency Ideology becomes "instrumentalism" and The Social Reconstruction Ideology "reconstructionism".

When the statements above from the OECD and the MoE Singapore are analysed ideologically, the focus on "student agency", "problem-solving", "self-directed learners" and "collaboration" aligns with progressivism and the focus on effecting "change" and "real-life situations" aligns with reconstructionism. In order to augment the ambition of Learning Compass 2030 and illustrate how policy makers, schools and teachers can facilitate student agency and skill development, this review aims to synthesise the findings of existing research into established pedagogies that are both progressive and reconstructionist. In doing so, this paper offers a starting point for policy makers, school leaders and teachers to identify pedagogies which could enhance the curriculum offer and ensure that students achieve the outcomes for the Learning Compass 2030.

Initial scoping of the literature

Identifying pedagogies

This review was funded by a non-profit organisation, Enactus UK. Through its NextGen-Leaders programme, Enactus UK facilitates the development of student-driven projects in secondary schools (11–19-year-old students), which impact positively upon local communities. In line with the OECD's Learning Compass 2030, the NextGenLeaders programme is both progressive and reconstructionist – this review seeks to identify pedagogical approaches which have similar ideological underpinnings in order to capture the benefits and outcomes for students when these pedagogies are used with the 11–19-year-old age group.

This review began with a scoping activity of relevant pedagogies in order to develop search terms and inclusion and exclusion criteria. The starting point was to locate existing systematic reviews of pedagogies, as well as academic books, which could be considered progressive and reconstructionist. This was a complex process, and it quickly became clear that existing systematic reviews nearly always focussed on one discrete pedagogical approach rather than a group of approaches underpinned by similar ideologies. For example, separate reviews into "project based learning" (Condliffe et al., 2017) and "problem-based learning" (Zakaria, 2014) were identified. Perhaps more challenging was the way in which each pedagogical term could be implemented with different ideological underpinnings depending upon the teacher and the wider school context. The work of Leat (2017), for example, highlights how project-based learning can either be more classical humanist or progressivist, more instrumentalist or reconstructionist, depending on the context in which it is used (Leat, 2017). That said, the work of Leat (2017) also develops a hierarchical schema for these different models of delivery, where progressivist and reconstructivist ideologies and their student-driven, society-facing pedagogy are high impact iterations of project-based learning. What became clear during this scoping activity, therefore, was how despite pedagogies containing the potential to be adapted to serve different ideological leanings, the pedagogies also contained an ideal conception with a particular ideological orientation that could be valued within a hierarchical schema of delivery.

Based on this notion, certain pedagogies were excluded during the scoping activity. Problem-based learning, for example, was explored because of the way it was conceptualised in a recent systematic review (Zakaria, 2014) as progressive. However, problem-based learning was ultimately excluded from this review as the conceptualisation did not include reconstructionism. As part of this scoping activity, therefore, only those pedagogies which were conceptualised as being best delivered when underpinned by progressivist and reconstructionist ideologies were included. These pedagogies are summarised below based on existing systematic reviews of their underlying principles and outcomes for 11–19 year olds. The pedagogies are then synthesised (see Table 1) to develop specific inclusion and exclusion criteria.

Project-based learning (PBL)

There have been a number of literature reviews of PBL with 11–19 year olds, but these reviews do not build upon one another. For this reason, the two main reviews discussed here are sequential, with Condliffe et al. (2017) building upon the work of Thomas (2000). Two more recent reviews are also included as they build upon the recommendations of

Table 1. Inclusion criteria for pedagogies.

	Progressive	Reconstructionist
PBL (Condliffe et al., 2017)	Projects promote learning Teacher is a facilitator Students decide project driving questions Student engagement is cultivated	Projects are externally developed Projects are presented to authentic public audiences
YPAR (Anyon et al., 2018)	Projects grounded in youths' lived experiences and concerns (inquiry) Youth are collaborators in methodologies and pedagogies (participatory)	Youth actively intervene to improve the lives of youths and communities (transformative)

Condliffe et al. (2017) to explore the relationship between PBL and student outcomes (Chen & Yang, 2019; Leggett & Harrington, 2021).

In line with Thomas (2000), Condliffe et al. (2017, pp. 5–7) identify five PBL design principles used by teachers: establishing "driving questions"; targeting "significant learning goals"; using projects to "promote learning"; cultivating "student engagement"; and using "scaffolds to guide student learning". The extent to which these design principles align with progressivism and reconstructionism is influenced by whether PBL is "externally developed", "teacher-initiated" or "a whole school approach" (Condliffe et al., 2017, p. 14). In line with Leat (2017), Condliffe et al. (2017) adopt a hierarchical schema for PBL delivery, which favours progressivism and reconstructionism – externally developed, student-driven projects are more impactful upon students than those which are teacher-initiated or part of a whole school approach, due to the latter being more curricula driven and classroom-facing. In schools where progressive and reconstructionist PBL is delivered, "significant learning" takes place with teachers supporting students to establish "driving questions" to ensure their projects are community-facing. The extent to which PBL is progressive and reconstructionist is also linked to the ways in which projects are assessed. Rather than teachers predefining products, Condliffe et al. (2017, p. 12) highlight three assessment principles, allowing for tailored assessment which can be both progressivist and reconstructionist: creating a "product that answers the driving question"; providing "opportunities for student reflection and teacher feedback"; presenting "products to authentic public audiences".

In relation to student outcomes, Condliffe et al. (2017) highlight several subject specific cognitive domains where attainment is improved through PBL, namely science and mathematics. A more recent systematic review (Chen & Yang, 2019) demonstrates how students across all subjects increase in their attainment as a result of PBL. In contrast to Condliffe et al. (2017), this was particularly marked in the social sciences. Condliffe et al. (2017) also focus on the impact of PBL on specific groups, with some evidence demonstrating that PBL leads to higher attainment and higher graduation from high school in the US for students from disadvantaged backgrounds. In line with this, a recent systematic review reports an increase in attainment and the affective skills of motivation and engagement for disadvantaged students using PBL, whilst also highlighting the need for more longitudinal studies to capture both the development of skills and competencies over time (Leggett & Harrington, 2021). In relation to student competency development, however, there is a lack of research into how PBL impacts upon specific competencies due to the inconsistent ways in which research projects have been designed. In their conclusion, Condliffe et al. (2017, p. 54) identify the need for future research into the impacts of PBL to "develop reliable measures of intra- and interpersonal competencies".

Youth participatory action research (YPAR)

The two most recent reviews of YPAR are discussed here. Firstly, a review which looks at YPAR globally in school and out of school contexts (Anyon et al., 2018); and secondly, a review which builds upon the first review and focusses on YPAR in high schools in the US (Anderson, 2020). Anyon et al. (2018, p. 856) outline three key principles of YPAR: inquiry based – "topics of investigation are grounded in youths' lived experiences and

concerns"; participatory – "youth are collaborators in methodologies and pedagogies"; transformative – "youth actively intervene in order to change knowledge and practices to improve the lives of youth and their communities". In comparison with PBL, YPAR is more explicitly progressive and reconstructionist in its ideology as the equalising of power relationships between adults and students promotes student ownership of projects and contextualising projects within a local community brings about positive change to the lives of youths and their communities. Anderson's (2020, p. 250) research highlights three key project components – relationship-building; capacity-building; and dissemination through in-person presentations – and in doing so draws attention to two key differences from the principles of PBL. Firstly, an emphasis on relationship-building underscores the overtly progressive leanings of YPAR as well as commitment to interpersonal and affective skills development. And secondly, capacity-building reflects how YPAR includes the explicit teaching of research methods to young people to help them design and undertake their projects. As with PBL (Condliffe et al., 2017), both reviews illuminate how YPAR is likely to be more meaningful when it takes place outside of the curriculum and school. Anyon et al. (2018) identify how young people's "agency and leadership" are enhanced when undertaking work in a community rather than school setting; Anderson (2020) evidences students having "greater freedom" when their projects are undertaken either before or after compulsory lessons.

In relation to student outcomes, Anyon et al. (2018) evidence that youth engagement in YPAR helps students develop a range of competencies and skills. The ways in which these competencies and skills are conceptualised are as diverse as the ways in which they are with PBL, the most frequently reported impacts being "agency and leadership", "social and interpersonal skills", "academic and career" outcomes as well as "critical consciousness". At the same time, and like PBL, Anyon et al. (2018, p. 874) point out that only 2 of the 61 studies included are longitudinal and none involved control groups, meaning that "it is not yet possible to make claims about the causal impact of this approach on participants' outcomes", including students from disadvantaged groups. Having said this, Anderson (2020, p. 251) does highlight how students in alternative provision settings as well as students from disadvantaged backgrounds seem to benefit from YPAR as "youth researchers who are systematically excluded can indeed produce knowledge and have their diverse needs met".

Citizenship education and service learning

Whilst citizenship is a subject, "citizenship education" tends to be conceptualised along pedagogical lines. Systematic reviews on citizenship education have been sporadic and three, including two older reviews, are discussed here. Two related reviews focus on citizenship education in schools (EPPI, 2004, 2005) and one focuses on citizenship education in the US in the context of schools and community settings, where the related pedagogy of service learning is utilised (Lin, 2013).

The first review (EPPI, 2004, p. 16) identifies key principles of citizenship education as a pedagogy which promotes: student "participation in decision-making and ownership and agency"; "dialogue and discourse"; the "empowerment" of students to challenge "authority"; and relevance to the "student-lived experience". Like YPAR, these principles indicate the overtly progressive nature of citizenship education. Given that, only one of the

studies involved students working in their local community, indicating how the reconstructionist potential of citizenship education was unrealised. However, the more recent review of citizenship education in the US (Lin, 2013) focused solely on studies which are reconstructionist in their conceptualisation. Here citizenship education involved students working in their local communities through a "service learning" pedagogy. Service learning involves students working in their local communities to develop "civic engagement" and "address community needs" (Lin, 2013, p. 37).

What is unclear in this review is the extent to which the use of service learning negated the progressivist underpinnings of citizenship education as service learning projects are often mandated by schools, teachers and the curriculum (Lin, 2013). However, taken together, the progressivism of citizenship education identified in the earlier reviews (EPPI, 2004, 2005), and the reconstructionism of citizenship education when delivered with service learning, meant that it was deemed prudent to include these pedagogies as search terms for the systematic review.

In terms of student outcomes, the second EPPI review (2005) concludes that there is some evidence that citizenship education can improve: achievement; metacognition; cooperative learning; sense of empowerment; and self-confidence. However, these findings are put forward tentatively. As with PBL and YPAR, the reviewers identify a lack of consistency in conceptualising and measuring outcomes as well as a lack of longitudinal research. With the more recent US review (Lin, 2013), the need to undertake more research to identify the long-term outcomes of service learning on civic engagement is also established. However, engagement in service learning is here shown to increase "community-level civic engagement" as well as "school commitment" (Lin, 2013, p. 56). These studies included both service learning as a mandatory part of the school curriculum and service learning as voluntary, taking place outside of school. As with PBL and YPAR, the impacts were shown to be greater where students joined voluntarily.

Identifying pedagogical outcomes

The existing systematic reviews of PBL, YPAR and citizenship education/service learning highlighted the ways in which outcomes for students are differently conceptualised by researchers and the problems this poses for undertaking a systematic review which aims to aggregate outcomes. Some of the papers included in the reviews, for example, used the nebulous term "Twenty-first Century Skills", which has elsewhere been highlighted as signifying different concepts in different frameworks produced by different policy groups (Voogt & Roblin, 2012). Other papers used the term "competencies", whilst others focussed more specifically on skills and/or competencies like "independent learning" or affective skills like "engagement" and "motivation".

This complexity of conceptualisation necessitated the development of a framework to categorise pedagogical outcomes for the systematic review. Accordingly, this scoping phase also involved reading an analysis of skills and competencies frameworks (Voogt & Roblin, 2012), which coalesces around the National Research Council's (2012, p. 4) view of skill outcomes leading to competency development across three domains: the cognitive, including critical thinking and knowledge acquisition; the intrapersonal, including self-regulated learning and metacognition; and the interpersonal, including

collaboration and social skills. By defining student outcomes as competencies in three domains, it is possible to categorise student outcomes reported in the different studies.

However, what is missing from this framework of competency development is the affective domain. The scoping activity, therefore, also included reading relating to specific skills and competencies to consider further the potential significance or otherwise of the affective domain. What became clear is that outcomes relating to the affective domain were often fundamental in theories about the development of specific competencies. In Zimmerman's (2002) model of self-regulated learning, for example, "self-motivation" underpins all actions taken by the learner. In reviewing the literature on self-regulated learning, therefore, Meyer et al. (2008) highlight the immanence of "affective skills".

Accordingly, in developing a framework to categorise student outcomes of progressive and reconstructionist pedagogies, a fourth domain of affective skills was added.

Summary and synthesis of existing reviews

Having identified the pedagogies to be included in the search terms and having decided upon a framework for categorising student outcomes, the final stage of this scoping activity involved synthesising the identified pedagogies to provide inclusion criteria for the screening of research articles for the systematic review. This synthesis is presented in Table 1 and focuses on the key principles of the pedagogies. Whilst it was felt prudent to include citizenship education and service learning in the search terms for the systematic review, it was decided not to include these pedagogies in Table 1. This was because individually neither pedagogy exemplified key principles that were both progressive and reconstructionist; rather they were shown to be both progressivist and reconstructionist when used in tandem (Lin, 2013).

To help frame specific research questions for the systematic review, the final stage of the scoping review also drew together the key gaps identified in existing reviews for research into these pedagogies. First and foremost, these gaps revolved around the lack of consistency in the conceptualisation of outcomes – a problem addressed through the development of the framework of pedagogical outcomes outlined above. The gaps in research also included: the need for more longitudinal research, including control groups, in order to evidence long term student outcomes; more evidence of how these pedagogies are particularly impactful for disadvantaged students; and a comparison of the relative impact of these pedagogies when delivered inside or outside of school.

Current study

The following research question was developed:

What are the outcomes of pedagogies that are both progressivist and reconstructionist for 11–19 year olds in terms of cognitive, intrapersonal and interpersonal competency development and affective skills?

As sub-questions, this review also aims to consider:

What are the long-term outcomes?

Do socially disadvantaged students particularly benefit from these pedagogies?

How do outcomes compare when students participate in extra-curricular and out of school activities rather than curricular activities?

Method

Identification

Identifying articles for this systematic review was a complex process, which was underpinned by PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses). The scoping activity helped focus on specific pedagogies – their synonyms, related terms and abbreviations were identified and developed as the search terms. Ultimately the search terms were entered as keywords: ("Project-based learning" OR "Project based learning" OR "PBL" OR "PjBL" OR "Enquiry based learning" OR "Inquiry based learning") OR ("Participatory learning and action" OR "Participatory Research" OR "Participatory Action Research" OR "PAR" OR "Youth participatory action research" OR "YPAR") OR ("Citizenship" OR "Service Learning" OR "Service-learning"). In terms of outcomes, given the plethora of nebulous terms like Twenty-first Century Skills, a decision was made not to include outcomes in the search terms, but rather identify these through analysis. Equally, due to the wide range of school and out of school settings applicable to this review, a decision was made to include search terms relating to the target population rather than the context. The following search terms were used: ("Learner*" OR "Student*" OR "Youth" OR "Adolescent*" OR "14-19" OR "11-19" OR "Young people" OR "Teenager*" OR "Teen*" OR "Young adult*"). Given that the key subject term was education, the search was run on Academic Search Complete and ERIC databases. PsycARTICLES was also used as many of the outcomes for students related to cognitive science – databases from publishers in both of these subject areas (Taylor and Francis Journals, SAGE Journals, SpringerLink, Wiley Online Library) were are also used to ensure all relevant articles were found. As existing reviews had been used to frame the research questions, the search was set to only include peer-review research articles published in the last 10 years (2013-2022). To draw upon as large an evidence-base as possible for the outcomes of these pedagogies, a decision was made to include research using quantitative, qualitative, and mixed methods.

Screening

A total of 204 studies were returned by the search strategy, with 12 duplicates then removed, resulting in 192 studies which were extracted onto a data management system (Endnote) and screened by title and abstract against the inclusion criteria (Table 1). It was felt that the reading of the title and the abstract would be sufficient to include or exclude articles. Equally, any articles which were not predominantly (over 50%) focused on the key age range were excluded. Finally, any articles which did not report outcomes in relation to competency and affective skills were also excluded. At this stage the researcher worked with a peer with a special expertise in systematic reviews to ensure that the process was

robust. At times, when the title and abstract were ambiguous in relation to the inclusion criteria, it was deemed necessary to undertake a full reading of research articles. 127 studies were excluded, leaving 65 studies which were read in full against the inclusion criteria. Of these 65 studies, 23 articles fully met the inclusion criteria for this review.

Analysis

The articles were then analysed using a deductive approach, which responds to existing reviews highlighting a lack of consistency in the conceptualisation of outcomes (Condliffe et al., 2017; Anyon et al., 2018). Accordingly, the framework for analysis of student outcomes used to analyse the included articles consisted of four codes: cognitive competencies; intrapersonal competencies; interpersonal competencies; and affective skills. Coding was undertaken using NVivo software. Within these codes, sub-codes were developed inductively based on the recurrence of specific competencies or affective skills. For example, "self-regulated learning" and related terms like "metacognition" and "independent learning" were repeated within the intrapersonal competency code and categorised under the subcode of "self-regulated learning". A similar categorisation of terms relating to subcodes took place for each of the four codes.

In the process of coding, a distinction was made in relation to the nature of the research projects, which were identified as: qualitative or mixed methods, small-scale projects, with population groups lower than 60 (11 studies); and quantitative or mixed methods, large scale projects, with population groups above 60 (12 studies). A further distinction was made for longitudinal projects which lasted at least 1 year (12 studies). These distinctions allowed for the separation of data in the presentation of results and their analysis. As two of the sub-questions for the review focussed on comparisons of outcomes for social groups and outcomes depending on location of delivery, comparative studies (4) and randomised controlled trials (RCTs) (5) were also identified at the coding stage.

Results

Context of studies

A summary of the 23 included studies is reported in Table 2. The table gives information about: the context and methodology of the studies; the pedagogy; and the outcomes for students. For 21 out of the 23 articles, the context for the research is the US, with 1 study in Italy, the other South Africa. It is also worth noting that most of the studies included (15) focussed on student groups from areas of social disadvantage (typically reported in the articles as "low SES" – low socioeconomic status). In terms of location of delivery, most studies took place in school (16) with the rest (7) in a range of community and extra-curricular settings. Pedagogically, most of the studies focus on YPAR (14), with 7 studies focussing on PBL and 2 on citizenship education/service learning.

Cognitive competency outcomes for 11–19 year olds

The cognitive competency outcomes for 11–19 year old students were wide ranging and included the subcodes: attainment (in a range of subject areas, including non-specified

Table 2. Summary of included studies.

Article	Project overview	Pedagogy	Student outcomes
Albanesi et al. (2021)	*Context* Italy; high school *Participants* 15–17 year old students; n = 87 *Methodology* 2-year study; randomised controlled trial; surveys and interviews	YPAR	*Cognitive Competency* Critical reflection Critical consciousness *Intrapersonal Competency* Autonomy *Interpersonal Competency* Participatory climate in school *Affective Skills* Engagement
Anderson et al. (2021)	*Context* US; alternative school *Participants* 15–18 year old students; n = 10; low socio economic status (SES) *Methodology* Qualitative; mixed methods	YPAR	*Cognitive Competency* Critical consciousness Science knowledge
Arnold and Mihut (2020)	*Context* US; high schools *Participants* 17–18 year old students; n = 1900; low SES *Methodology* 6-year study; pre and post high school graduation data; surveys	PBL	*Cognitive Competency* Above average high school graduation rates (95% compared to 84%) Vocational growth *Intrapersonal Competency* Personal growth Independent learning Time management Organisation *Interpersonal Competency* Interpersonal growth
Cabrera et al. (2014)	*Context* US; high schools *Participants* 14–18 year old students; n = 16917; low SES *Methodology* 6-year quantitative comparative study; attainment scores for YPAR and non-YPAR students	YPAR	*Cognitive competency* Significantly higher test scores when 16–18 years old for YPAR group
Chung and McBride (2015)	*Context* US; high school *Participants* All 12–13 year old students in school *Methodology* Case study; mixed methods; 9 months duration	Citizenship education /Service learning	*Intrapersonal Competency* Self-management Self-awareness *Interpersonal Competency* Social and emotional learning competencies
Coleman and Leider (2022)	*Context* US; high school *Participants* 14–15 year old students in one science class *Methodology* Case study	YPAR	*Cognitive Competency* Critical agency *Intrapersonal Competency* Personal reflection
Creghan and Adair-Creghan (2015)	*Context* US; 2 high schools *Participants* Students in PBL School n = 330; students in traditional school n = 1200; low SES *Methodology* 3-year quantitative comparative study of student attendance data	PBL	*Affective skills* Significantly higher attendance for disadvantaged students in PBL schools
Escobar and Qazi (2020)	*Context* US; voluntary summer school	PBL	*Cognitive Competency* Critical thinking

(*Continued*)

Table 2. Continued.

Article	Project overview	Pedagogy	Student outcomes
	Participants 14–17 year old students; n = 107; low SES *Methodology* Self-perception surveys		Problem-solving *Interpersonal Competency* Teamwork *Affective skills* Self-concept as scientist Self-concept for future study and work
Hansen et al. (2018)	*Context* US; extra-curricular *Participants* 14–19 year olds; n = 441 *Methodology* 1-year quantitative study; pre and post project questionnaires	PBL	*Intrapersonal competency* Increased agency
Koudelka (2021)	*Context* US; high school *Participants* 13–14 year old students; n = 10; teacher; n = 1 *Methodology* Mixed method 4-month case study; observations, interviews, pre and post surveys	YPAR	*Intrapersonal competency* Increased agency
Morales et al. (2017)	*Context* US; vocational high school *Participants* 16–17 year olds; n = 15 *Methodology* *1 year ethnographic study*	YPAR	*Cognitive Competency* Critical awareness Connecting local and national contexts
Morales et al. (2013)	*Context* US; high school *Participants* 15–18 year old students; n = 31; low SES *Methodology* 1-year case study; interviews, focus groups, observations, surveys	PBL	*Cognitive Competency* Problem-solving *Intrapersonal Competency* Independent learning *Interpersonal Competency* Peer mentored learning *Affective skills* Motivation
Moseki and Schulze (2019)	*Context* South Africa; high school *Participants* 15–16 year olds; n = 70; low SES *Methodology* 10-week randomised controlled trial; YPAR experiment group	YPAR	*Intrapersonal Competency* Increased self-regulated learning Metacognition *Affective skills* Increased motivation for learning
Nabors et al. (2019)	*Context* US; 2 summer schools *Participants* Students 13–17 years old who ran workshops; n = 45; students from elementary school who took part; n = 45; low SES *Methodology* Case study; interviews, reflective journals	Citizenship education/ Service learning	*Cognitive Competency* Learning about poverty *Interpersonal Competency* Leadership skills Teaching skills Civic engagement *Affective skills* Future engagement in service learning
Ozer and Douglas (2015)	*Context* US; California; 4 high schools; curricular and extra-curricular classes *Participants* Teachers n = 4; 14 cohorts; 4–19 year old students n = 150; low SES *Methodology*	YPAR	*Cognitive Competency* Strategic thinking Research skills *Interpersonal Competency* Group work Networking Power sharing over major decisions

(*Continued*)

Table 2. Continued.

Article	Project overview	Pedagogy	Student outcomes
	2-year project; observations of lessons to evaluate use of YPAR		Power sharing over class structure Communication skills
Ozer and Douglas (2013)	*Context* US; 5 high schools *Participants* High school students 16 years old; n = 401; low SES *Methodology* Randomised controlled trial, YPAR treatment group and comparison group; surveys and observations; projects lasting between 1 term and 1 year	YPAR	*Intrapersonal Competency* Improved psychological empowerment for YPAR group *Interpersonal Competency* Improved participation Improved socio-political skills *Affective skills* Improved motivation for YPAR group
Parker et al. (2013)	*Context* US; 4 high schools *Participants* 17–18 year old students; n = 289 *Methodology* Quantitative comparison of test scores; randomised controlled trial, 2 PBL schools, 2 traditional schools	PBL	*Cognitive competency* Statistically significant higher test scores in government and politics for PBL students
Schwartz and Suyemoto (2013)	*Context* US; community based *Participants* 12–19 years old students; n = 79; low SES *Methodology* 1-year case study; pre and post project surveys; observations; interviews	YPAR	*Intrapersonal Competency* Organisational skills Transferral of skills and confidence to school context *Interpersonal Competency* Relationship skills Speaking skills Civic action and putting skills into practice *Affective skills* Improved self-concept as agent of change
Scott et al. (2015)	*Context* US; University project *Participants* 14–18 year old students n = 4; low SES *Methodology* 3-year longitudinal study; observations, interviews	YPAR	*Cognitive Competency* Critical consciousness *Intrapersonal Competency* Self-reflection and praxis *Affective skills* Intrinsic motivation Self-concept as agent of change and researcher
Spires et al. (2021)	*Context* US; high school *Participants* 16–17 year olds; n = 6; low SES *Methodology* 2-month case study; interviews; artefacts	PBL	*Cognitive Competency* Critical consciousness Making links between the global and the local *Interpersonal Competency* Collaboration Collective praxis *Affective skills* Feeling part of a community
Tang Yan et al. (2022)	*Context* US; community arts organisation *Participants* 15–17 year old youth researchers; n = 10; low SES; adult researchers n = 5 *Methodology* Case study; observations, interviews	YPAR	*Cognitive Competency* Critical consciousness *Interpersonal Competency* Leadership skills Collective action
Trott (2020)	*Context* US; out of school club *Participants* Young people 8–13 years old; n = 55	YPAR	*Cognitive competency* Improved understanding of climate change

(*Continued*)

Table 2. Continued.

Article	Project overview	Pedagogy	Student outcomes
	Methodology Mixed methods; surveys, focus groups		*Intrapersonal Competency* Agency
Voight and Velez (2018)	*Context* US; 6 high schools *Participants* Students 14–18 years old; n = 153 treatment group; n = 6187 control group; low SES *Methodology* 1-year randomised controlled trial; surveys, tests	YPAR	Cognitive competency Improved reading scores *Affective skills* Engagement in school

subjects); critical thinking (critical consciousness and critical awareness); and problem-solving (making links between different contexts).

To start with attainment, in the large-scale projects subject specific student outcomes were reported in school contexts: Parker et al. (2013), Voight and Velez (2018), and broader gains in attainment were reported through YPAR in schools by Arnold and Mihut (2020) and Cabrera et al. (2014). Three of these studies are especially significant. Voight and Velez's (2018) RCT across six schools evidences how the YPAR treatment group (n = 153) scored significantly higher in post intervention reading tests compared with the control group (n = 6187). Parker et al.'s (2013) quantitative comparison of test scores (n = 289) for government and politics, where half of the total students attended traditional schools, the other half PBL schools, showed PBL students scored statistically significantly higher than those attending the traditional schools. And Cabrera et al.'s (2014) 6-year comparative study (n = 16,917) showed significantly higher test scores for YPAR students across the full range of subjects. The qualitative studies also demonstrated attainment as a cognitive competency outcome through YPAR, but this was outside of mainstream schooling and testing, including development of science knowledge (Anderson et al., 2021), and a deeper understanding of poverty (Trott, 2020).

Critical thinking appeared in only two of the quantitative studies. Albanesi et al. (2021) undertook a RCT in Italy (n = 87) which demonstrated how students taught through YPAR developed cognitive competencies of critical reflection and critical consciousness more readily than those taught through traditional methods. Similarly, Escobar and Qazi's (2020) self-perception surveys showed how students (n = 107) developed critical thinking through PBL. In contrast, five of the more qualitative studies reported gains in critical consciousness using either PBL or YPAR (Tang Yan et al., 2022; Spires et al., 2021; Morales et al., 2017; Scott et al., 2015; and Anderson et al., 2021), with one reporting gains in critical agency (Coleman & Leider, 2022). Notably, Scott et al. (2015) demonstrated the depth of the development of four students using YPAR by conducting a 3-year longitudinal study.

Five studies reported student outcomes relating to problem-solving. The quantitative projects were Escobar and Qazi (2020), which reported gains in problem-solving skills using PBL (n = 107); and Ozer and Douglas (2015), which reported gains in strategic thinking and research skills over a two-year period (n = 150). For the small-scale projects, Morales et al. (2013) demonstrated increased problem-solving skills (n = 31) over a 1-year period, and Morales et al. (2017) and Spires et al. (2021) both demonstrated how

students were able to solve problems by making links between the local and national/global contexts through PBL/YPAR.

Intrapersonal competency outcomes for 11–19 year olds

The intrapersonal competency outcomes for 11–19 year old students were equally wide ranging and split into two subcodes: self-regulated learning (autonomy, metacognition, independent learning, organisation skills, time management, self-reflection); and agency (empowerment, personal growth).

Of the 7 studies reporting outcomes for students in self-regulated learning, 5 were quantitative or large-scale mixed methods projects. Albanesi et al. (2021) undertook a RCT with students in Italian schools (n = 87) and reported gains in autonomy for students taught through YPAR. Arnold and Mihut (2020) found gains in independent learning through their 6-year longitudinal study (n = 1900) in the US. Moseki and Schulze (2019) found increased self-regulated learning and metacognition using YPAR in South Africa (n = 70) and Chung and McBride found the development of self-management skills in a case study of a year group in a US high school when using citizenship education and service learning. In relation to smaller studies, Morales et al. (2013) found PBL developed independent learning (n = 31) using YPAR over a year. The specific skills of self-reflection were also reported by Coleman and Leider (2022) and Scott et al. (2015) using YPAR.

Agency was reported as an outcome in two school-based large-scale projects. Arnold and Mihut's (2020) longitudinal study demonstrated personal growth for students (n = 1900) in pre and post PBL self-perception studies and Ozer and Douglas (2013) showed how the YPAR treatment group experienced greater psychological empowerment compared to students taught in traditional ways (n = 401). In an extra-curricular context (Hansen et al., 2018), PBL was shown to increase student agency (n = 441). Trott's small-scale YPAR project also showed gains in student agency (n = 55) in an out of school club and Koudelka (2021) showed the same outcomes for students in school (n = 10) though pre and post survey data.

Interpersonal competency outcomes for 11–19 year olds

The interpersonal competency outcomes for 11–19 year old students had the greatest range of terms and were split into three subcodes: collaborative learning (participation, interpersonal growth, social learning, teamwork, groupwork, relationships); social skills (communication; networking; socio-political skills); leadership skills (peer mentoring, teaching, power sharing); and collective action (civic engagement, praxis, civic action).

Collaborative learning was found in seven large scale projects. Four of these involved either the use of YPAR or PBL in US schools (Arnold & Mihut, 2020; Ozer & Douglas, 2015; Ozer & Douglas, 2013; Schwartz & Suyemoto, 2013). Arnold's (2020) 6-year study used pre and post surveys to capture the interpersonal growth of 1900 students. Ozer and Douglas (2015) found improved groupwork for 150 students through 2 years of structured observations. In their earlier project (2013), Ozer and Douglas found that their YPAR treatment group exhibited greater participation levels compared with other students (n = 401). And Schwartz and Suyemoto's (2013) year-long case study triangulated improved relationship skills for students (n = 79) through surveys, observations and interviews. Teamwork was

also shown to be developed by PBL in a US summer school context (n = 107) through self-perception surveys and Albanesi et al.'s (2021) 2-year randomised controlled trial in Italy showed increased participation (n = 87) as a result of YPAR. Finally, increased collaboration was evidenced in Spires et al.'s case study (n = 6).

The development of social skills was found in four large-scale studies in the US. Three of these involved the use of YPAR with students. Schwartz and Suyemoto (2013) found how speaking skills were developed in a community setting through triangulating data relating to their students (n = 79) from pre and post surveys, observations and interviews. In school contexts, Ozer and Douglas's (2013, 2015) studies demonstrate improved communication skills for students (n = 150) in a 2-year project and improved socio-political skills for their YPAR treatment group in a RCT. Chung and McBride (2015) also found that the use of citizenship education and service learning developed social competencies of a year group cohort through their mixed methods study.

Leadership skills were evidenced in a two-year school project (Ozer & Douglas, 2015), which demonstrated through observations how the treatment group was more able than other students (n = 150) to participate in power sharing activities to make decisions on issues and structures as a result of two years of YPAR. The development of peer mentoring skills was also evidenced in three small-scale studies (Morales et al., 2013; Nabors et al., 2019; Tang Yan et al., 2022).

Finally, collective action was mainly evident in projects with smaller numbers of participants. At the larger end of this scale was Schwartz and Suyemoto (2013), who demonstrated that students (n = 79) using YPAR developed civic action by putting their skills into practice. Nabors et al. (2019) demonstrated how older students (n = 45) benefited from teaching younger students (n = 45) and how the use of service learning and citizenship education promoted civic engagement for both groups. In Spires et al.'s (2021) PBL case study and Tang Yan et al.'s (2022) YPAR case study, students were seen to develop collective praxis and collective action respectively.

Affective skill outcomes for 11–19 year olds

The code affective skills was split into three subcodes: engagement (including attendance); motivation (including self-concept); and feeling part of a community.

In terms of engagement, this was reported as an outcome in three large scale projects. Creghan and Adair-Creghan (2015) compared three years of attendance data for students in a PBL school (n = 330) and students in a traditional school (n = 1200) finding that attendance was significantly higher for students in PBL schools. Similarly, Voight and Velez (2018) found through their RCT that YPAR students (n = 153) were more engaged in school than students taught through traditional methods (n = 6187). Albanesi et al. (2021) found that engagement in school in Italy was increased for students using YPAR in their RCT (n = 87). Nabors et al.'s qualitative project (2019) found that students running service learning workshops (n = 45) and students participating in service learning workshops (n = 45) expressed a wish to be engaged in future projects.

Four large scale projects and two small scale reported increases in motivation for disadvantaged students. In South Africa, Moseki and Schulze (2019) showed increased motivation for learning due to YPAR in their 10-week RCT (n = 70). This mirrors the results of Ozer and Douglas's (2013) RCT (n = 401) in a US school. In out of school contexts,

Escobar and Qazi (2020) and Schwartz and Suyemoto (2013) both demonstrated how self-concept is built through PBL (n = 107) and YPAR (n = 79) respectively. In terms of the small-scale projects, self-concept and motivation are separated in Scott et al.'s (2015) 3-year study (n = 4) and they are both demonstrated to increase through YPAR. Similarly, motivation is shown to be developed though Morales et al.'s (2013) 1-year case study (n = 31).

In terms of feeling part of a community, this was only found in one small-scale (n = 6) study looking at the use of PBL (Spires et al., 2021).

Discussion

The results outlined above indicate a range of evidence for progressive and reconstructionist pedagogies developing cognitive, intrapersonal and interpersonal competencies and affective skills for 11–19 year olds. The results also indicate, however, that certain outcomes are more clearly evidenced than others.

To start with cognitive competencies, building on the lack of research identified by Anyon et al. (2018), attainment has now received more attention from both quantitative and qualitative studies with RCTs demonstrating gains in specific curriculum areas (Voight & Velez, 2018; Parker et al., 2013) and two large comparative studies demonstrating general gains over a 6-year period leading to high school graduation (Arnold & Mihut, 2020; Cabrera et al., 2014). However, more focus on attainment in specific curriculum areas is needed. Equally, whilst there is some longitudinal evidence for critical thinking (Albanesi et al., 2021; Scott et al., 2015) and problem-solving (Ozer & Douglas, 2015; Morales et al., 2013), more comparative research is needed.

In terms of intrapersonal development outcomes, Condliffe et al.'s (2017) conclusion about the use of a wide variety of terms is still relevant. That said, the subcode of self-regulated learning has received the most attention and includes the most compelling evidence. This is seen in a range of qualitative studies as well as RCTs in Italy (Albanesi et al., 2021) and South Africa (Moseki & Schulze, 2019) and a large comparative study in the US (Arnold & Mihut, 2020). Given the OECD's (2022) focus on student agency, it is interesting to note that there is less evidence of agency being developed by these pedagogies and conceptualisations of agency vary greatly across the studies. For example, the two larger projects which focus on agency conceptualise agency as personal growth (Arnold & Mihut, 2020) and psychological empowerment (Ozer & Douglas, 2013).

For interpersonal development, there is a range of quantitative and qualitative evidence for these pedagogies developing collaborative learning as an outcome. This includes two RCTs (Ozer & Douglas, 2013; Albanesi et al., 2021) and a year-long qualitative study (Schwartz & Suyemoto, 2013). However, as with agency, and in line with Condliffe et al.'s (2017) review, the concepts used within collaborative learning are disparate. Furthermore, there is less evidence across the studies for social skills, leadership, and collective action.

Similarly, in light of the OECD linking the cognitive competency of problem solving to individual (2014) and collective competencies (2017), it should also be pointed out that none of the research projects focussed on the relationship between cognitive,

intrapersonal and interpersonal competency development. This would be another avenue for further research and of particular relevance would be the relationship between individual agency and collective action, the latter only receiving attention in smaller, qualitative studies.

In terms of affective skills, there was a range of evidence from quantitative and qualitative studies, including RCTs and longitudinal studies for these pedagogies developing student engagement and motivation (Albanesi et al., 2021; Voight & Velez, 2018; Moseki & Schulze, 2019; Ozer & Douglas, 2013; Scott et al., 2015). Whilst the link between engagement, motivation and attainment is elsewhere established in educational research (Hattie, 2009), this is another area for future research. Also, feeling part of a community was only explored in one small-scale project (Spires et al., 2021) – this idea of belonging requires greater attention to acknowledge the affective dimension of students developing interpersonal competencies.

What are the long-term outcomes?

Building upon Anyon et al.'s (2018) call for more longitudinal research into outcomes, 11 of the studies included in the review capture impacts of pedagogies on students over time as they analyse data over a period of a year or more, with 2 running over a 3-year period and 2 over a 6-year period. For the cognitive competency of attainment, these studies include quantitative studies which compare outcomes with students taught in more traditional ways, demonstrating that attainment increases for students taught through YPAR and PBL (Arnold & Mihut, 2020; Cabrera et al., 2014; Parker et al., 2013; Voight & Velez, 2018). However, as indicated above, more specific research on attainment within subject areas is needed.

These quantitative longitudinal comparative studies also provide evidence that the affective skill of motivation is developed as an outcome for PBL and YPAR students over time (Albanesi et al., 2021; Moseki & Schulze, 2019; Ozer & Douglas, 2013; Voight & Velez, 2018; Creghan & Adair-Creghan, 2015) – an outcome which is also found to be developed in longitudinal qualitative studies (Morales et al., 2013; Morales et al., 2017). Whilst the intrapersonal competency of self-regulated learning is evident in the studies, there is less of a focus on independent learning in the longitudinal studies with two quantitative studies (Albanesi et al., 2021; Moseki & Schulze, 2019) and one qualitative study (Scott et al., 2015) reporting this as an outcome. The development of interpersonal competency (including collaborative learning, social skills, leadership skills and collective action) as well as other subcodes of all cognitive competencies (critical thinking, problem-solving) and intrapersonal competency (agency) and affective skills (engagement, feeling part of a community) have considerably less evidence of being outcomes of longitudinal research, demonstrating that further research is also needed.

It should also be noted that only one study tracked students beyond school into higher education (Arnold & Mihut, 2020). This study showed evidence of intrapersonal and interpersonal competencies, including independent learning and interpersonal growth, developed at an earlier age being utilised by students in a Higher Education context. Building on this study to track more students beyond school into Higher Education and work would be useful.

Do socially disadvantaged students particularly benefit from these pedagogies?

Building upon calls from existing reviews to undertake more research into outcomes for socially disadvantaged students (Leggett & Harrington, 2021; Anyon et al., 2018), 15 studies provide evidence of how these pedagogies improve outcomes for disadvantaged students across the three competency domains and affective skills. There is strong quantitative and qualitative longitudinal evidence here upon both the cognitive competency of attainment (Arnold & Mihut, 2020; Cabrera et al., 2014; Parker et al., 2013; Voight & Velez, 2018), and the affective skill of motivation (Moseki & Schulze, 2019; Ozer & Douglas, 2013; Voight & Velez, 2018; Creghan & Adair-Creghan, 2015; Morales et al., 2013; Morales et al., 2017). That said, only one of the large scale longitudinal studies included in the review (Creghan & Adair-Creghan, 2015) fits in with Anyon et al.'s (2018) call for comparative studies between social groups to evidence how pedagogies might serve to close outcome gaps. This study compares socially disadvantaged students using PBL (n = 330) with more advantaged students in a traditional school (n = 1200) to evidence increased engagement for socially disadvantaged students at the PBL school. Whilst this study does cite a correlation between attendance and attainment, and whilst existing reviews present some evidence of attainment gains for socially disadvantaged groups (Anderson, 2020; Leggett & Harrington, 2021), it is clear that further longitudinal and comparative research is needed here.

How do these outcomes compare when students participate in extra-curricular and out of school activities rather than curricular activities?

Six of the studies explore the use of either PBL, YPAR or service learning and citizenship education with young people in a range of out of school settings. In line with the studies overall, 3 of these studies, one a larger, year-long case study (Schwartz & Suyemoto, 2013), and two smaller qualitative studies (Scott et al., 2015; Trott, 2020), evidence improved intrapersonal competency of self-regulated learning; and 4 of the studies, two large scale, 2 small-scale, evidence improved interpersonal competency linked to collaborative learning (Schwartz & Suyemoto, 2013; Nabors et al., 2019; Escobar & Qazi, 2020; Tang Yan et al., 2022). What is particularly notable about all 6 studies into the use of these pedagogies in out of school settings is the ways in which participation seems to improve students' affective skill of motivation. This underlines the importance of such activities for young people outside of the school curriculum and builds upon findings in the systematic reviews which suggest engagement in these pedagogies is greater when they take place outside of the school curriculum (Lin, 2013; Anderson, 2020).

One of the studies also presents evidence of competency transference between young people's engagement in a community based project and their work in school (Schwartz & Suyemoto, 2013). This is seen as being symptomatic of developing affective skills relating to motivation through changes in self-concept, which sees young people developing the intrapersonal competency of self-regulated learning and the interpersonal competency of collaborative learning. Clearly, more research into this kind of transference is needed, but there are implications here about the ways in which out of school and extra-curricular activities can impact positively upon school activities.

Conclusion

This systematic review builds upon previous systematic reviews into PBL and YPAR, which call for: greater clarity in the conceptualisation of competency outcomes (Condliffe et al., 2017); more longitudinal research to explore and identify outcomes (Leggett & Harrington, 2021); and more longitudinal research, including randomised controlled trials, to explore and identify potential gains for socially disadvantaged students (Condliffe et al., 2017; Anyon et al., 2018). This systematic review concludes that whilst more research has been undertaken to build an outcome evidence base, there are still research gaps which need addressing.

In terms of clarity of conceptualisation of outcomes, the studies analysed here show this is still problematic and that more thought needs to be given by researchers to defining terms, particularly for intra- and interpersonal competencies. Utilising the framework put forward here may be one way forward, as would aligning research with the OECD's Learning Compass 2030. In terms of outcomes for students, the evidence is stronger for the cognitive competency of attainment, the intrapersonal competency of self-regulated learning and the affective skill of motivation. Furthermore, attainment and motivation as outcomes are both supported by longitudinal evidence. That said, attainment either tends to be narrowly focussed on subjects or more broadly focussed on end of school results and more research into both is needed. Equally, more evidence of how self-regulated learning can be maintained over time is needed through longitudinal research. More generally, further research into the other dimensions of competencies and skills are also needed. Given the OECD's priorities, longitudinal research into agency, both as an intrapersonal and interpersonal competency (collective action) would be helpful as would research into the affective dimension of interpersonal competency (feeling part of a group). Given that most of the studies involved disadvantaged students, these conclusions equally apply to research undertaken with this group. What is also missing here, however, are comparative studies where outcomes for socially disadvantaged students are compared with their more advantaged peers to explore how outcome gaps between groups might be narrowed. It should also be pointed out that the relationship between competencies and affective skills is not explored in any of the research papers. This would be an insightful starting point for a project design into the outcomes of these pedagogies. For example, the relationship between agency and collective action would be fascinating to explore and would contribute to an understanding of the Learning Compass 2030.

Despite this conclusion that more research into specific outcomes, with more clearly focussed conceptualisations of those outcomes, is needed, other recommendations for key stakeholders can be made. For policy makers, there is enough evidence to suggest that following Singapore's (MoE, 2022) example and mandating progressive and reconstructionist pedagogies would help develop students' competencies and affective skills and that, at a time of growing social inequalities (IFS, 2022), curriculum reform could help close the gap between socially disadvantaged students and their peers. Despite national policy limitations, for school leaders there is enough evidence here to promote the use of progressivist and reconstructionist pedagogies in schools. This might be linked to specific curriculum areas, as with some of the studies in this review, or it could be part of an extra-curricular offer. Indeed, given the evidence presented in

this review as to how readily students develop affective skills when they engage voluntarily with these pedagogies, schools partnering with businesses in their local communities and non-profit organisations offering project-based experiences for students like Enactus UK would be highly beneficial to their students. For teachers, the use of the pedagogies in their subject areas requires considerable professional development (Leat, 2017) which would need to be provided by their school's senior leadership. Having said that, for school leaders and teachers who are interested, there are quality professional development resources available, including the Buck Institute's Framework for High Quality PBL (2022). The conclusions are made with the acknowledgement of two limitations. Firstly, based on the decision to explore outcomes in qualitative, quantitative, and mixed methods research, whilst this review categorises outcomes for students using a framework, the lack of comparability of studies means that a meta-analysis has not been possible. Undertaking a meta-analysis would be a way of furthering our understanding of the evidence base. Secondly, whilst the review focuses on outcomes for students, it does not explore issues to do with pedagogical delivery in the included articles. A focus on this would help inform teacher development programmes in relation to what constitutes best practice to ensure student outcomes.

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References

Albanesi, C., Prati, G., Guarino, A., & Cicognani, E. (2021). School citizenship education through YPAR: What works? A mixed-methods study in Italy. *Journal of Adolescent Research*, *38*(10), 143–177. https://doi.org/10.1177/07435584211035564

Anderson, A. J. (2020). A qualitative systematic review of youth participatory action research implementation in U.S. High schools. *American Journal of Community Psychology*, *65*(1-2), 242–257. https://doi.org/10.1002/ajcp.12389

Anderson, A. J., Baggett, H. C., Andrzejewski, C. E., & Forbes, S. A. (2021). 'Why don't they just move closer?': Adolescent critical consciousness development in YPAR about food security. *Journal of Adolescent Research*. Advance online publication. https://doi.org/10.1177/07435584211065343

Anyon, Y., Bender, K., Kennedy, H., & Dechants, J. (2018). A systematic review of youth participatory action research (YPAR) in the United States: Methodologies, youth outcomes, and future directions. *Health Education and Behavior*, *45*(6), 849–1050. https://doi.org/10.1177/1090198118769357

Arnold, K., & Mihut, G. (2020). Post-secondary outcomes of innovative high schools: The big picture longitudinal study. *Teachers College Record: The Voice of Scholarship in Education*, *122*(8), 1–42. https://doi.org/10.1177/016146812012200803

Buck Institute of Education. (2022) *High quality project based learning framework*. https://hqpbl.org/

Cabrera, N. L., Milem, J. F., Jaquette, O., & Marx, R. (2014). Missing the (student achievement) forest for all the (political) trees: Empiricism and the Mexican American studies controversy in tucson. *American Educational Research Journal*, *51*(6), 1084–1118. https://doi.org/10.3102/0002831214553705

Chen, C.-H., & Yang, Y. (2019). Revisiting the effects of project-based learning on students' academic achievement: A meta-analysis investigating moderators. *Educational Research Review*, *26*, 71–81. https://doi.org/10.1016/j.edurev.2018.11.001

Chung, S., & McBride, A. (2015). Social and emotional learning in middle school curricula: A service learning model based on positive youth development. *Children and Youth Services Review*, *53*, 192–200. https://doi.org/10.1016/j.childyouth.2015.04.008

Coleman, E. R., & Leider, M. (2022). Science youth action research: A curricular framework and instructional approach to promote democratic citizenship. *Journal of Education*, *202*(1), 131–146. https://doi.org/10.1177/0022057420969428

Condliffe, B., Quint, J., Visher, M., Bangser, M., Drohojowska, S., Saco, L., & Nelson, E. (2017). *Project-based learning: A literature review*. MDRC.

Creghan, C., & Adair-Creghan, K. (2015). The positive impact of project-based learning on attendance of an economically disadvantaged student population: A multiyear study. *Interdisciplinary Journal of Problem-Based Learning*, *9*(2). https://doi.org/10.7771/1541-5015.1496

EPPI. (2004). *A systematic review of the impact of citizenship education on the provision of schooling*. EPPI-Centre.

EPPI. (2005). *A systematic review of the impact of citizenship education on student learning and achievement*. EPPI-Centre.

Escobar, M., & Qazi, M. (2020). Builders: A project-based learning experience to foster STEM interest in students from underserved high schools. *Journal of STEM Education: Innovations & Research*, *21*(3), 35–43.

Hansen, D. M., Moore, E., & Jessop, N. (2018). Youth program adult leader's directive assistance and autonomy support and development of adolescents' agency capacity. *Journal of Research on Adolescence*, *28*(2), 505–519. https://doi.org/10.1111/jora.12355

Hattie, J. (2009). *Visible learning: A synthesis of over 800 meta-ana lyses related to achievement*. Routledge.

IFS. (2022). *Education inequalitites – changes in education over time*. Institute for Fiscal Studies. https://ifs.org.uk/inequality/education-inequalities/.

Koudelka, C. M. (2021). Tapping teen power: (Re)positioning students for civic action. *Journal of Adolescent & Adult Literacy*, *64*(4), 389–398. https://doi.org/10.1002/jaal.1126

Leggett, G., & Harrington, H. (2021). The impact of project based learning (PBL) on students from low socio economic statuses: A review. *International Journal of Inclusive Education*, *25*(11), 1270–1286. https://doi.org/10.1080/13603116.2019.1609101

Leat, D. (2017). *Enquiry and project based learning*. Routledge.

Lin, A. (2013). Citizenship education in American schools and its role in developing civic engagement: A review of the research. *Educational Review*, *67*(1), 35–63. https://doi.org/10.1080/00131911.2013.813440

Meyer, B., Haywood, N., Sachdev, D., & Faraday, S. (2008). *Independent learning: Literature review*. dcsf, Learning and Skills Network.

Ministry of Education Singapore. (2022). https://www.moe.gov.sg/programmes/project-work.

Morales, D. M., Bettencourt, G., Green, K., & George Mwangi, A. (2017). 'I want to know about everything that's happening in the world': Enhancing critical awareness through a youth participatory action research project with latinx youths. *The Educational Forum*, *81*(4), 404–417. https://doi.org/10.1080/00131725.2017.1350236

Morrison, K., & Ridley, K. (1989). Ideological contexts for curriculum planning. In M. Preedy (Ed.), *Approaches to curriculum management* (pp. 31–43). Open University Press.

Morales, T. M., Bang, E., & Andre, T. (2013). A one-year case study: Understanding the rich potential of project-based learning in a virtual reality class for high school students. *Journal of Science Education and Technology*, *22*(5), 791–806. https://doi.org/10.1007/s10956-012-9431-7

Moseki, M. M., & Schulze, S. (2019). Fostering self-regulated learning of grade 10 learners by means of participatory action research. *South African Journal of Education*, *39*(Supplement 1), S1–S9. https://doi.org/10.15700/saje.v39ns1a1623

Nabors, L., Poteet, A., Blankemeyer, C., & Kamphaus, K. (2019). Adolescents as coaches during service-learning: Teaching children social and emotional skills. *Child & Youth Care Forum*, *48*(5), 719–736. https://doi.org/10.1007/s10566-019-09503-x

National Research Council. (2012). Education for life and work: Developing transferable knowledge and skills in the 21st century. Committee on defining deeper learning and 21st century skills. In J. W. Pellegrino, & M. L. Hilton (Eds.), *Board on testing and assessment and board on science education, division of behavioral and social sciences and education* (pp. 2.1–2.15). The National Academies Press.

OECD. (2022). *The OECD learning compass 2030*. Retrieved October 11, 2022, from https://www.oecd.org/education/2030-project/teaching-and-learning/learning/.

OECD. (2020). *PISA 2018 results (volume VI): Are students ready to thrive in an interconnected world?* PISA, OECD Publishing.

OECD. (2017). *PISA 2015 results (volume V): collaborative problem solving*. PISA, OECD Publishing.

OECD. (2014). *PISA 2012 results: Creative problem solving: Students' skills in tackling real-life problems (volume V)*. PISA, OECD Publishing.

Ozer, E. J., & Douglas, L. (2013). The impact of participatory research on urban teens: An experimental evaluation. *American Journal of Community Psychology*, *51*(1–2), 66–75. https://doi.org/10.1007/s10464-012-9546-2

Ozer, E. J., & Douglas, L. (2015). Assessing the key processes of youth-led participatory research: Psychometric analysis and application of an observational rating scale. *Youth & Society*, *47*(1), 29–50. https://doi.org/10.1177/0044118X12468011

Parker, W. C., Lo, J., Yeo, A. J., Valencia, S. W., Nguyen, D., Abbott, R. D., Nolen, S. B., Bransford, J., & Vye, N. (2013). Beyond breadth-speed-test: Toward deeper knowing and engagement in an advanced placement course. *American Educational Research Journal*, *50*(6), 1424–1459. https://doi.org/10.3102/0002831213504237

Schiro, M. (2007). *Curriculum theory – conflicting visions and enduring concerns*. Sage.

Schwartz, S., & Suyemoto, K. (2013). Creating change from the inside: Youth development within a youth community organizing program. *Journal of Community Psychology*, *41*(3), 341–358. https://doi.org/10.1002/jcop.21541

Scott, M. A., Pyne, K., & Means, D. (2015). Approaching praxis: YPAR as critical pedagogical process in a college access program. *The High School Journal*, *98*(2), 138–157. https://doi.org/10.1353/hsj.2015.0003

Spires, H., Himes, M., Lee, C., & Gambino, A. (2021). 'We are the future': Critical inquiry and social action in the classroom. *Journal of Literacy Research*, *53*(2), 219–241. https://doi.org/10.1177/1086296X211009283

Tang Yan, C., McCune, V., Clement-Sanders, C., Dixon, S., Dreitlein, T., Mohamed, M., Muharareni, E., McClay, C., & Sprague Martinez, L. (2022). Let's make space for young people to lead: Integrating research and action programming in an arts and technology center: Opportunities, challenges and lessons learned. *Journal of Community Practice*, *30*(1), 45–70. https://doi.org/10.1080/10705422.2022.2033374

Thomas, J. (2000). *A review of research on project-based learning*. The Autodesk Foundation.

Trott, C. D. (2020). Children's constructive climate change engagement: Empowering awareness, agency, and action. *Environmental Education Research*, *26*(4), 532–554. https://doi.org/10.1080/13504622.2019.1675594

Voight, A., & Velez, V. (2018). Youth participatory action research in the high school curriculum: Education outcomes for student participants in a district-wide initiative. *Journal of Research on Educational Effectiveness*, *11*(3), 433–451. https://doi.org/10.1080/19345747.2018.1431345

Voogt, J., & Roblin, N. (2012). A comparative analysis of international frameworks for 21 century competences: Implications for national curriculum policies. *Journal of Curriculum Studies*, *44*(3), 299–321. https://doi.org/10.1080/00220272.2012.668938

Zakaria. (2014). A systematic review of problem based learning education. *Scientific Research*, *10*(12), 2671–2688. https://doi.org/10.4236/ce.2019.1012194

Zimmerman, B. J. (2002). Becoming a self-regulated learner: An overview. *Theory Into Practice*, *41*(2), 64. https://doi.org/10.1207/s15430421tip4102_2