Introduction

Multiple Australian and international studies have shown that, compared to children and young people in the general population, children and young people in out-of-home care (OHC) have poor educational outcomes. This includes increased rates of school disengagement, as well as reduced literacy, numeracy and academic attainment (see Sebba, Luke & Berridge, 2017). These poor educational outcomes – combined with the effects of childhood trauma and other adversities which are characteristic experiences of those who have lived in OHC – can wreak harmful effects that persist across the lifespan. As is overwhelmingly indicated by research evidence, school disengagement has longlasting associations with several poor life outcomes, particularly in relation to criminal offending and problematic substance use (Rocque, Jennings, Piquero, Ozkan & Farrington, 2016), as well as teenage pregnancy, poor health outcomes, and dependence on social services (Kronholz, 2011; Ekstrand, 2015). Moreover, poor literacy and numeracy skills have been shown to have long-term, negative effects on employment, acquisition of employment-related skills and training, probability of owning a home, and both physical and mental health outcomes (see Parsons & Bynner, 2005; Moon, Artken, Rodenick, Fraser & Rowlands, 2015), as well as a host of other indicators of social inclusion and quality of life (see Bynner & Parsons, 2006).

In recognition of these significant risks for children and young people living in OHC, in 2012 Anglicare Victoria launched its Transforming Educational Achievement for Children in Home-based and Residential care program, or TEACHaR. The TEACHaR intervention involves qualified, registered teachers (hereafter referred to as educators) being assigned to work intensively with children and young people living in OHC; providing them with frequent and regular direct-tutoring (one-on-one) in relation to schoolwork and education, particularly in regard to literacy- and numeracy-related tasks. These educators are not situated within a particular school, but form dedicated teams whose sole function is to work with children and young people living in OHC.

The 2018 TEACHaR Evaluation was conducted by David Giles, Principal Researcher Anglicare Victoria.
In addition to direct tutoring, educators provide frequent and regular in-class support to clients at their educational institutions (usually a school); attending their classroom with them, assisting them in class work, and assisting their regular school teachers with class activities. Moreover, educators engage in advocacy to clients’ educational institutions, and the Victorian Department of Education and Training, regarding clients’ learning- and school-related needs. Further, educators work to improve the knowledge of school teachers and other school staff about the impacts of trauma on children living in OHC, and how these experiences are likely to have influenced their capacity to engage in learning and education, as well as their broader psychosocial wellbeing.

This process of educators working with children and young people both within and out of the school environment is what differentiates the model from many other educational support programs. Through working one-on-one with students in their homes and other locations away from the school context, educators have a much greater and more useful opportunity to warmly engage with these children and young people, to get to know their personalities, and to assess their learning abilities and needs away from the confounding influence of the peer-filled school environment. Educators can then communicate their assessments and insights about how to better meet children’s learning needs to classroom-teachers at school.

At the same time, educators have the opportunity to observe what may be working well at school, and to then work with carers to transfer these learnings to the home-placement context. Two earlier evaluations of the TEACHaR model (see David, 2015; David, 2016) evidenced a range of significant improvements to educational outcomes for children and young people living in OHC. Following these studies, Anglicare Victoria made some considerable changes to the approach used by educators to assess children and young people’s literacy and numeracy – with this now generally being accomplished via standardised testing, rather than in reference to school grades and non-standardised judgement of ability. Additionally, the TEACHaR program introduced several psychometric instruments to better assess additional constructs of interest. These included the teacher-rated Strengths and Difficulties Questionnaire (Goodman, 1997) as a measure of clients’ psychosocial wellbeing (which the TEACHaR program actively works to improve), and both the Quality of School Life – Adventure (Motivation) subscale (Ainsley & Bourke, 1992) and School Attitudes Assessment program (Iversen, Hetland, Havik and Stormark (2010), and; Snow, Mendes and O’Donohue (2014)) as measures of attitudes to school and learning, and learning-related behaviours.

The present quality-assurance study sought to assess the efficacy of the TEACHaR model - using this expanded and more robust client-dataset - for improving educational engagement and outcomes, or maintaining these at desirable levels, of children in OHC. The study also explored the impact of the model on improving children and young people’s psychosocial wellbeing (which is strongly arguably as a necessary condition for effective and sustainable educational engagement), and whether the presence/absence of client intellectual disability, autism spectrum disorder (ASD), or other cognitive/developmental issue that might reasonably be assumed to impact on learning and school engagement influences the efficacy of the TEACHaR program.

**Method**

**Participants**

The sample comprised 31 children and young people living in OHC in Victoria. The mean age of clients at referral to the TEACHaR program was 13.23 years (SD=3.13), with 21 clients being male (68%) and 10 female (32%). 18 clients were living in residential care placements (58%), nine in foster care placements (29%), one in a kinship care placement (3%) and a further three in other types of placements (10%).

A large minority of the sample comprised children and young people of Aboriginal and/or Torres Strait Islander identity (10 clients, 32%), with most of the sample not being of such identity (21 clients, 68%). Five clients identified as being from culturally and linguistically diverse backgrounds (16%), whilst 25 did not identify as being from such backgrounds (81%). No information regarding cultural background was recorded for one client.

Approximately one quarter of clients in the sample had a diagnosed intellectual disability (eight clients, 26%), five were diagnosed with ASD (16%) and 17 had some other diagnosed developmental or cognitive impairment which could reasonably be expected to impact on learning and educational engagement (e.g. attention deficit hyperactivity disorder (ADHD), domain-specific developmental delay or learning disability, etc.). In total, 18 clients (58%) had an intellectual disability, ASD and/or some other cognitive/developmental impairment which could reasonably be expected to impact on learning and educational engagement.

This high prevalence of such neurodevelopmental and mental disorders has been established as typical of populations of children and young people living in care or known to child welfare services (for example, see Ford, Vostanis, Meltzer & Goodman (2007; Iversen, Hetland, Havik and Stormark (2010), and; Snow, Mendes and O’Donohue (2014)).

**Procedures**

Clients received the six-month TEACHaR intervention sometime in 2016 or 2017, which included repeated assessment of constructs of interest.

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1 Executive approval for quality-assurance analyses of these clients’ de-identified service data was secured in 2018 (in accordance with National Health and Medical Research Council (2014) ethical considerations in quality assurance and evaluation activities).
Measures

Educators conducted a structured assessment of each client at baseline (within the first month following commencement of the intervention), then again at six months post-baseline.

Structured assessments involved:

• Collection of information about the client’s –
  o Age, gender, cultural background, and out-of-home-care placement type.
  o Current school enrolment and attendance patterns (including movement between educational institutions, any suspension/expulsion history, expected full attendance hours, actual attendance hours).
  o Use of school resources such as student support groups and mentors.
  o Diagnoses, if any, of intellectual disability, ASD, or another developmental/cognitive impediment to learning – such as a domain-specific learning disability, language or cognitive impairment, ADHD, or other issue.

• Completion of the teacher-rated Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997) - which assesses child/adolescent psychosocial wellbeing in respect of five subscales – ‘emotional problems’, ‘conduct problems’, ‘peer problems’, ‘hyperactivity’, and ‘prosocial [behaviour]’, plus provides a ‘total difficulties’ score which is the sum of all subscale scores except ‘prosocial [behaviour]’.

• Assessment of literacy – the approach to assessment of clients’ literacy varied across different children and young people within the sample, based on the practicability of children/young people engaging in structured assessment. Where possible, and in the majority of cases, standardised, and normed assessments endorsed by the Australian Council for Education Research were used - including the Progressive Achievement Tests in reading, and computer-based Compass testing (see Australian Council for Education Research, 2018). In a minority of instances, where children/young people's presentation made such testing impracticable (for instance, in the case of highly challenging behaviours precluding the child/young person tolerating participation in a structured test), educators gauged literacy using their professional judgement, in light of their leading the client through literacy-based activities. In all instances, literacy was ultimately ranked on a five point scale in respect of population norms: 1) Well below average, 2) Below average, 3) About average, 4) Above average, 5) Well above average.

• Assessment of numeracy – as with assessing literacy, educators’ approach to assessing numeracy varied (for the same reasons) – with structured tests including the Progressive Achievement Tests in numeracy and computer-based Compass testing (see Australian Council for Education Research, 2018) mostly being utilised, and educators’ professional judgement being utilised in a minority of instances when structured testing was not practicable. In all instances, numeracy was ultimately ranked on a five point scale in respect of population norms: 1) Well below average, 2) Below average, 3) About average, 4) Above average, 5) Well above average.

• Assessment of clients’ attitudes to school and learning, and learning-related behaviours - this was conducted with two instruments. For primary school-aged children, this was measured using the Quality of School Life – Adventure (Motivation) subscale (QSL-A; Ainsley & Bourke, 1992), and for high school-aged students, the School Attitudes Assessment Survey – Revised (SAAS-R; McCoach and Siegle, 2003) was used. Results on the QSL-A were transformed into the same 7-point scale as the SAAS-R, so as to make children and young people across the sample comparable on this variable irrespective of age. On both instruments, ratings were given by educators on a scale – ranging 1=strongly disagree to 7=strongly agree - against positively-phrased attitudes and behaviours regarding educational engagement (e.g. ‘works hard at school’, ‘uses a variety of strategies to learn new materials, ‘puts a lot of effort into schoolwork’). Final scores were taken as the mean across items.
Results

94% of clients experienced improvement or maintenance at a desirable level\(^2\) on at least one variable, with 65% experiencing improvements/maintenance on two or more variables, 45% experiencing improvements/maintenance on three or more variables, 23% experiencing improvements/maintenance on four or more variables, and 13% experiencing improvements/maintenance on all five variables.

Tests indicated the appropriateness of the data for a factorial MANOVA; with Box’s M test for the equality of covariance matrix >0.001, and the Shapiro-Wilk Test value >0.05, showing adequate normality. There was no multicollinearity between the dependent variables, \(r<.8\) but \(>.2\). The Mahalanobis Distances among participants did not exceed 16.27, indicating no multivariate outliers.

A significant multivariate effect was found in regard to the influence of the six-month TEACHaR intervention on scores for outcome variables between baseline and six-month assessments, \(F(5,25)=4.27, p=.006, \text{ Wilk’s } \Lambda=.539, \text{ partial } \eta^2=.461, \text{ 95\%CIs } [0.061, 0.583]\). Results of univariate tests indicated that, when comparing scores at baseline to those at 6 month-assessments:

- Extent of school attendance was significantly increased from baseline (\(M=1.55\) (i.e. midway between ‘partial’ and ‘substantial’ attendance), \(SD=1.23\)) to six-months (\(M=2.06\) (i.e. ‘substantial attendance’), \(SD=1.18\)), \(F(1,29)=7.04, p=.013\), with an effect size of \(\eta^2=.195\), 95\%CIs \([0.009, 0.417]\) – indicating a large effect, with a population parameter which may range from a small to very-large effect (i.e. margin of error is wide due to small sample).

- Numeracy was significantly increased from baseline (\(M=1.45\) (i.e. midway between ‘well below average’ and ‘below average’), \(SD=.72\)) to six-months (\(M=1.71\) (i.e. close to ‘below average’), \(SD=.86\)), \(F(1,29)=8.78, p=.006\), with an effect size of \(\eta^2=.232\), 95\%CIs \([0.022, 0.481]\) – indicating a large effect, with a population parameter which may range from a small to very-large effect (i.e. margin of error is wide due to small sample).

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Analysis

A factorial MANOVA was conducted to investigate whether the six-month TEACHaR intervention significantly changed clients’:

1. Extent of school attendance (this was operationalised onto a four point scale – 0=not attending, 1=partially attending, 2=substantially attending (i.e. a sizeable majority of expected school hours), 3=fully attending (expected school hours). It is important to note that expected school hours equating to full attendance differed between children and young people. For some, full attendance was 32.5 hours per week. For others (such as those with intellectual disability or other conditions impeding attendance), this may be a lesser number of hours.

2. Attitude to school and learning, and learning-related behaviours (QSL-A or SAAS-R score).

3. Literacy (operationalised on the aforementioned five-point scale in respect of population norms).

4. Numeracy (operationalised on the aforementioned five-point scale in respect of population norms).

5. SDQ total difficulties score.

The presence/absence of an intellectual disability, ASD, or other cognitive/developmental issue that might reasonably be assumed to impact on learning and school engagement (hereafter referred to as ‘ID or other condition’) was investigated as a between-subjects factor, hypothesised to interact with the effect of the TEACHaR intervention for clients on the abovementioned variables.

\(^2\) Maintenance of desirable levels was defined as follows: for school attendance, this equated to substantial or full attendance; for literacy and numeracy, this equated to average or above average abilities; for attitude to school and learning, and learning-related behaviours, this equated to a QSL-A or SAAS-R score of four or above – indicating that, on average, agreement was recorded against positively-phrased attitudes and behaviours regarding educational engagement; and for SDQ total difficulties scores, this equated to scores in either the ‘close to average’ or only ‘slightly raised difficulties’ bands, as per the scale authors’ four band categorisation (i.e. ‘close to average‘, ‘slightly raised difficulties’, ‘high difficulties’, and ‘very high difficulties’ (see http://www.sdqinfo.com/py/sdqinfo/c0.py)).
• SDQ total difficulties score was decreased – to an extent closely enough approaching the threshold of statistical significance to infer true effect – from baseline (M=23.13, SD=6.78) to six-months (M=21.29, SD=7.76), \( F(1,29)=3.02, p=.093 \), with an effect size of \( \eta^2=.094, 95\% \text{CIs } [0, 0.310] \) – indicating a moderate effect, with a population parameter which may range from no effect to a very-large effect (i.e. margin of error is wide due to small sample).

No other significant effects were found across the entire group in respect of the other two outcome variables - attitude to school and learning and learning-related behaviours, and literacy.

When comparing results for children and young people with an ID or other condition, and those without an ID or other condition, interaction effects were found between this between subjects factor and clients having received the TEACHaR intervention, in respect of the following outcome variables:

Literacy – \( F(1,29)=4.73, p=.038 \), with an effect size of \( \eta^2=.14, 95\% \text{CIs } [0, 0.362] \) – indicating a large effect, with a population parameter which may range from no effect to a very-large effect (i.e. margin of error is wide due to small sample).

Table 1: Descriptive statistics for changes to literacy for TEACHaR clients with and without an ID or other condition

<table>
<thead>
<tr>
<th>COHORT</th>
<th>LITERACY – BASELINE</th>
<th>LITERACY – SIX MONTHS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ID or other condition</td>
<td>M=1.33 (i.e. close to ‘well below average’), SD=.59</td>
<td>M=1.44 (i.e. midway between ‘well below average’ and ‘below average’), SD=.71</td>
</tr>
<tr>
<td>No ID or other condition</td>
<td>M=1.85 (i.e. close to ‘below average’), SD=.80</td>
<td>M=2.00 (i.e. at ‘below average’), SD=.86</td>
</tr>
</tbody>
</table>

SDQ total difficulties – \( F(1,29)=5.13, p=.029 \), with an effect size of \( \eta^2=.155, 95\% \text{CIs } [0, 0.373] \) – indicating a large effect, with a population parameter which may range from no effect to a very-large effect (i.e. margin of error is wide due to small sample).

Table 2: Descriptive statistics for changes to SDQ total difficulties for TEACHaR clients with and without an ID or other condition

<table>
<thead>
<tr>
<th>COHORT</th>
<th>SDQ TOTAL DIFFICULTIES – BASELINE</th>
<th>SDQ TOTAL DIFFICULTIES – SIX MONTHS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ID or other condition</td>
<td>M=25.83 (in ‘very high difficulties’ range), SD=5.58</td>
<td>M=23.06 (in ‘very high difficulties’ range), SD=7.01</td>
</tr>
<tr>
<td>No ID or other condition</td>
<td>M=19.38 (in ‘very high difficulties’ range), SD=6.69</td>
<td>M=18.85 (down to ‘high difficulties’ range), SD=8.37</td>
</tr>
</tbody>
</table>

Figure 1: Estimated marginal means for literacy scores by cohort
Attitude to school and learning, and learning-related behaviours (note: effect does not cross the threshold of statistical significance, but is approaching this to the extent that we can infer true effect) - $F(1,29)=2.91, p=.099$, with an effect size of $\eta^2=.091, 95\%$ CIs $[0, 0.306]$ – indicating a moderate effect, with a population parameter which may range from no effect to a very-large effect (i.e. margin of error is wide due to small sample).

Table 3: Descriptive statistics for changes to attitude to school and learning, and learning-related behaviours, for TEACHaR clients with and without an ID or other condition

<table>
<thead>
<tr>
<th>COHORT</th>
<th>ATTITUDE TO SCHOOL AND LEARNING, AND LEARNING-RELATED BEHAVIOURS – BASELINE</th>
<th>ATTITUDE TO SCHOOL AND LEARNING, AND LEARNING-RELATED BEHAVIOURS – SIX MONTHS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ID or other condition</td>
<td>$M=2.17$ (i.e. close to average of 'disagree' ratings against items), $SD=.96$</td>
<td>$M=2.50$ (i.e. midway between average of 'disagree' and 'slightly disagree' ratings against items), $SD=1.30$</td>
</tr>
<tr>
<td>No ID or other condition</td>
<td>$M=3.15$ (i.e. close to average of 'slightly disagree' ratings against items), $SD=1.46$</td>
<td>$M=3.08$ (i.e. close to average of 'slightly disagree' ratings against items), $SD=1.80$</td>
</tr>
</tbody>
</table>

Figure 2: Estimated marginal means for SDQ total difficulties scores by cohort

Figure 3: Estimated marginal means for attitude to school and learning, and learning-related behaviours scores by cohort
Discussion

The results from this quality-assurance study further evidence the TEACHaR model as effective at improving, or maintaining at desirable levels, the school attendance and numeracy of children and young people living in OHC, and decreasing their experience of psychosocial problems - or maintaining desirable levels of psychosocial wellbeing (as operationalised by their SDQ total difficulties scores). For those children and young people who experienced improvements to the abovementioned variables, the large, large and moderate effect sizes, respectively, on changes to assessment scores are extremely encouraging. However, the wide 95% confidence intervals on these effect sizes indicate that further evaluation with much larger samples is required in order to produce more precise estimates of these effects.

In regard to the two dependent variables for which significant shifts across the two measurement points were not found – i.e. literacy, and attitude to school and learning, and learning-related behaviours - it is important to note that significant interaction-effects were found for these variables between presence of an ID or other condition and provision of the TEACHaR intervention. These results suggest a number of noteworthy possibilities.

Firstly, it may be that children and young people in OHC without an ID or other condition are likely to derive greater increases to their literacy abilities from the TEACHaR program than those who do have such a condition, because there tends to be a ceiling on the extent and/or rate of improvement to literacy that many children/young people with an ID or other condition can attain, due to neurodevelopmental factors. Accordingly, the lack of significant effect that the TEACHaR program had on this variable for the entire sample may be attributable to the large proportion of children and young people within it (58%) who had a diagnosed ID or other condition.

Secondly, in regard to the finding that children and young people with an ID or other condition derive a markedly better improvement to attitude to school and learning, and learning-related behaviours, as well as their overall psychosocial health (even though mean scores at six months were better on these variables for the group without an ID or other condition), there may be a number of possible explanations for this. However, one fairly compelling possibility is that the dynamics underlying poor attitudes to school and learning and learning-related behaviours, and poor overall psychosocial health, tend to differ somewhat between these two cohorts. Specifically, it is reasonable to posit that for children and young people living in OHC who have an ID or other condition, these dynamics may often largely relate to a poor fit between classroom teaching practices and/or placement-related educational-support practices (e.g. approach to study assistance from carers, home study environment, etc.), and children’s specific learning needs in context of the nature of their ID or other condition.

Where this is the case, such issues of “poor fit” may be practically amenable to improvement through the kind of short-to-medium-term intervention the TEACHaR program provides, particularly in regard to its substantial advocacy focus to schools and classroom teachers. As systematic review has shown, the quality of teacher student relationships is associated with school attendance, as well as less disruptive behaviour in class (Quin, 2016).

For children and young people without an ID or other condition, however, the dynamics underlying poor attitudes to school and learning and learning-related behaviours, and poor overall psychosocial health, may have more of their basis in the complex social-relational challenges of late childhood and especially adolescence (in respect of peer groups and relationships), and internalised, problematic narratives about the value of education and learning. If so, and considering that such dynamics are comparatively more challenging for intervention to practically influence, this would account somewhat for this difference. Further studies are required to investigate this.

Indeed, further evaluation of the TEACHaR intervention using much larger samples is warranted for a number of reasons. Certainly, this is an important model for improving educational outcomes and psychosocial wellbeing of children in OHC. However, in addition to the need to more precisely estimate effect sizes, research with larger samples is required so that the discrete effects of the intervention can be elicited for children and young people with an ID or other condition in regard to their specific diagnosis. One limitation of the present study is that, due to the small sample, children and young people with different diagnoses of neurodevelopmental/mental disorder (intellectual disability, ASD, ADHD, etc.) had to be collapsed into the one cohort – ‘ID or other condition’ (which could reasonably be expected to impact on learning and educational engagement).

Another area of focus warranted for future evaluations of the TEACHaR model is to determine what its maintenance effects are, as well as its cascading effects on longer-term educational trajectory and related life chances. However, whilst such effects of the TEACHaR intervention were not evaluated as part of this quality assurance study, it is reasonable to posit that some important impacts of the six-month TEACHaR intervention may persist in the medium- to long-term. For instance, robust modelling has found that reduction in absenteeism reliably improves test results in math and reading as educational participation continues (Aucejo & Romano, 2014). Moreover, meta-analytical study has found that emotional problems in children are associated with poor overall psychosocial wellbeing prior to further participation in schooling is likely to have beneficial effects in terms of subsequent, meaningful completion of schooling.

Looking to the longer term, the importance of significant increases to numeracy may powerfully influence children’s later chances of gaining further education, as children’s sense of self-efficacy and self-concept in respect of their mathematical ability have been shown to have non-discriminatory and differential, beneficial effects on a range of later educational outcomes – such as subsequent secondary school
achievement in maths (Aren, Marsh, Pekrun, Lichtenfeld, Murayama & vom Hofe, 2017), and both entrance into tertiary studies in general, and participation in science, technology, engineering or math (STEM) courses specifically (Parker, Marsh, Ciarrochi, Marshall & Abduljabbar, 2014). Looking even further to the long-term, longitudinal research has shown that, whilst adults who were in OHC as children are at increased risk of premature mortality, educational success has been shown to fully mitigate against this risk (Almquist, Jackisch, Forsman, Gauffin, Vinnerljung, Hjern, & Brännström, 2018). Additionally, study has found that for younger children of lower socio-economic status (which is characteristic of children living in OHC), school attendance has stronger effects on cognitive development than for children of higher socio-economic status (Ready, 2010) – with such development undoubtedly conferring lifelong abilities, advantages and protective factors.

Conclusion

The TEACHaR model is clearly an effective intervention for significantly improving the school attendance, numeracy and psychosocial wellbeing of children and young people living in OHC. Moreover, it is likely an effective model for significantly improving the literacy of children and young people without an ID or other condition, and for significantly improving the attitude to school and learning, and learning-related behaviours, of children and young people who have an ID or other condition – though the inconclusive results from this study in this regard highlight the need for further, large-scale evaluation of the TEACHaR model.

In addition to bringing about significant improvements to children and young people’s educational engagement, academic abilities and psychosocial wellbeing, this study also showed that the model can help many children and young people in OHC maintain these at already desirable levels. The importance of this impact of the program should not be understated, given that children and young people in OHC are of such high risk of becoming disengaged from learning and education, and developing significant psychosocial problems as they age through the care system.

In conclusion, the results of this TEACHaR quality-assurance evaluation add to the pool of research evidence indicating the effectiveness of this model. TEACHaR has an important role to play in the suite of services which assist vulnerable children and young people living in OHC to attain resilience-conferring educational and education-related benefits.