



The TEACHOUT intervention TIDieR checklist¹

1. Brief name

TEACHOUT

2. Why

The TEACHOUT intervention describes as a specific and regular use of education outside the classroom (EOtC) (i.e. *udeskole*). Regular use of EOtC is defined as one day weekly or fortnightly.

Generally, EOtC targets primary and lower secondary school children and is characterized by curriculum-based educational activities practiced outside the school buildings in natural (e.g. a park or forest) or cultural (e.g. a museum or library) settings. EOtC has typically been practiced in natural settings with the aim to teach abstract academic skills and concepts in a more hands-on and illustrative way. EOtC is characterised by collaborative, action-centred, experiential, inquiry based, and thematic learning processes involving outdoor teaching and learning activities in agreement with teachers' curricular obligations. These activities aim to promote learning and wellbeing through practical activities and the use of one's body and senses in authentic situations, and through interaction between one's actions and thoughts. Examples could be measuring and calculating a tree's volume in mathematics, teaching language skills through poetry writing in and about nature, and teaching history or religion while visiting places of historic significance.

The program theory proposed to explain the effects on participating children, considered to be consequences of EOtC practice, involves changing the physical setting to allow for different use of pedagogies, as described above. In this way, regular use of EOtC is proposed to provide a motivating school setting that facilitates learning processes in children. For more information, please see the TEACHOUT study protocol ([Nielsen et al., 2016](#))

¹ <https://www.equator-network.org/wp-content/uploads/2014/03/TIDieR-Checklist-PDF.pdf>

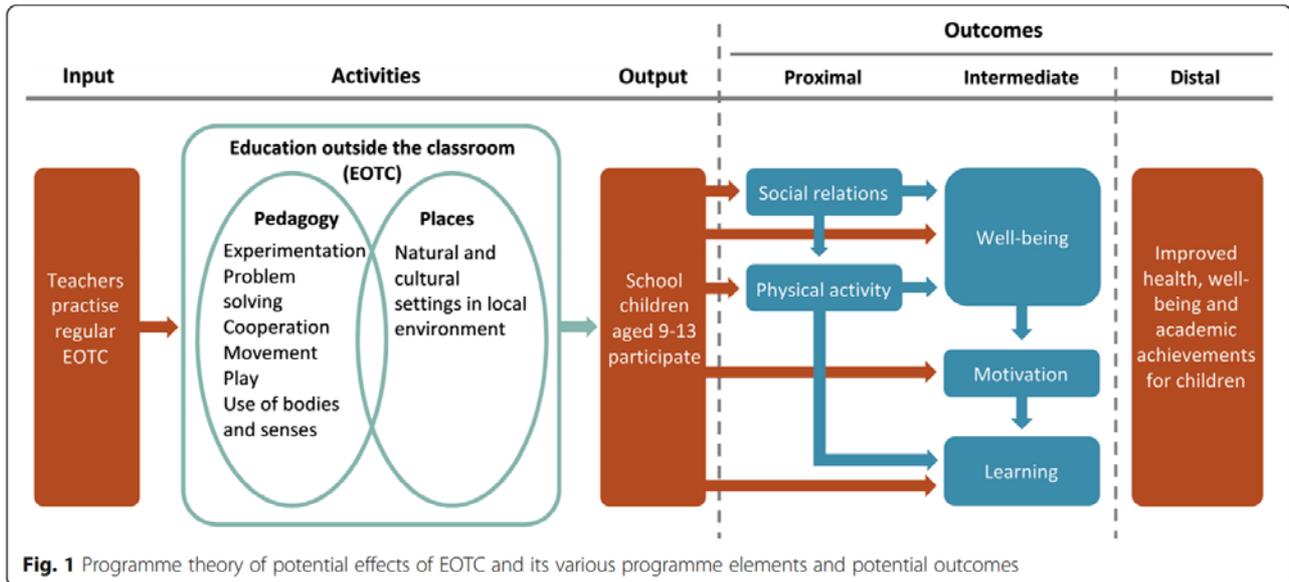


Fig. 1 Programme theory of potential effects of EOTC and its various programme elements and potential outcomes

Source: [Nielsen et al., 2016](#).

3. What (materials)

At a two-day seminar, teachers who had accepted to teach with the use of EOTC on a regular basis were introduced to how to adopt these practices to teach curriculum-based lessons outside the classroom. Additionally, teachers were handed a sheet with references to materials for inspiration, such as books, web pages and pamphlets (all in Danish).

Monitoring of the teachers use of EOTC was done at class-level with an internet-based registration tool on weekly basis for one school year. For every school day, teachers self-reported whether their class had received a minimum of 45 minutes of EOTC. If 'yes', additional options were given, for instance, choosing the type of place where the teaching was located outside the school buildings. The cut-point of 45 minutes was chosen as a new public school reform was initiated simultaneously with the evaluation of the TEACHOUT intervention (August 2014). Among other objectives, the school reform included requirements of 45 min of daily physical activity on average for children.

During one week, once during the evaluation of the TEACHOUT intervention (the school year 2014-2015), three pupils in each participating class were given time to write class-level diaries.

4. What (procedures)

Individual information meetings on content and teachers' obligations as participants in the TEACHOUT study for all participating teachers were held at each school prior to the TEACHOUT intervention school year.

At the two-day seminar prior to the TEACHOUT intervention school year, teachers in the intervention group attended practical workshops, had supervised yearly planning of use of EOTC in their teaching in groups and subsequent presentations of examples with discussion, and attended a 30-minute presentation on how to use selected inspirational websites (www.skoveniskolen.dk and www.udeskole.dk). The workshops included three 1.5 hours sessions showcasing examples of EOTC practice and sharing of thoughts and experiences by instructors and subsequent discussion of EOTC in subjects, including mathematics, Danish and natural science.

5. Who provided

The two-day seminar were organized by the TEACHOUT research group (for contact information, please see the TEACHOUT study protocol, [Nielsen et al., 2016](#)). Workshops and presentations were held by experienced Danish EOtC teachers with at least five years of experience in using EOtC.

Participating teachers (1-2 per class) taught the actual EOtC in the classes throughout the intervention school year by themselves.

6. How

The two-day seminar was delivered to the participating EOtC teachers face-to-face and in groups. Information meetings prior to the start of the intervention were delivered face-to-face in groups of 2-10 teachers at a time.

Actual EOtC sessions were provided to the pupils by their teachers with the classroom as starting point.

7. Where

The two-day seminar was held at The Forest and Landscape College, Department of Geosciences and Natural Resource Management, University of Copenhagen. The Forest and Landscape College is situated in Nødebo and includes a canteen, teaching rooms, workshops, conference and accommodation facilities, and a number of outdoor facilities, such as shelters, fire cabin, and nature playground. A wide variety of these facilities were used during the seminar activities.

Teacher using EOtC were allowed to freely choose the subject(s) to teach outside the classroom and the place(s), and eventual mode of transportation, for each EOtC session.

8. When and how much

EOtC class teachers were asked to provide the class with an average of at least 300 min of EOtC practice through one or two weekly sessions, during the school week, Monday through Friday) during the full school year (mid-August through the end of June). Comparison class teachers were asked not to regularly practice EOtC with the class during the same period.

The 300 min weekly EOtC minimum was selected so that it was a substantial contributor to children's school time, and to separate the practice from occasional field trips. The extent of the TEACHOUT intervention was equivalent to approximately 15% of primary school hours on a weekly basis or equivalent to 7% of children's waking hours Monday through Friday.

Teachers were instructed to include time spent on briefing before and de-briefing after the educational activities outside the school's buildings when reporting minutes of EOtC practice.

9. Tailoring

N/A

10. Modifications

N/A

11. How well (planned)

The TEACHOUT intervention was evaluated as a part of the Danish TEACHOUT study – a mixed methods, quasi-experimental, cross-disciplinary study that aimed to understand how regular use of EOtC influenced

physical activity, learning, social relations, motivation, and well-being among school participants attending grades three to six (9-13 years old) (please, see TEACHOUT intervention program theory, *Ad. 2 "Why?"*)

Within the Danish school setting, each school is allowed so-called "freedom of methods" to align with ministerial-decided curricula targets for each subject.

12. How well (actual)

National language lessons and science education was the two subjects most often taught during EOtC sessions. Physical education and mathematics were the second most used subjects. Multidisciplinary teaching was used in several sessions.

EOtC sessions were mostly conducted in nature and green settings (approx. between 1.5 and 1.8 hours a week). The second most used setting was cultural institutions (approx. 1 hour per week). Setting-exposure time included time used for transportation. Sometimes, various settings were used during an EOtC session.

On average, the 28 TEACHOUT intervention classes used EOtC 4.72 hours ($SD = \pm 1.19$ hours) and 1.29 sessions ($SD = \pm 0.49$ sessions) per week during the period of the monitoring (38 weeks of a total of 180 possible school days, excluding weekends and holidays).

In comparison, the 20 control group classes, who were not intended to use EOtC, used EOtC 1.64 hours ($SD = \pm 1.73$ hours) and 0.65 sessions ($SD = \pm 0.53$ sessions) per week during the same period.

The amount of teaching hours used for EOtC sessions each week were on average positive associated with amount of sessions implemented.

Variation in study sample sizes and exposure to EOtC varies across outcomes (please, see individual published studies). Overall, the sample included children across 3rd to 6th grade (9-12 years of age) mostly from a middle to high socioeconomic background. The intervention group teachers had mostly little or no previously experience with regular use of EOtC.

In the TEACHOUT study, it was found that

- The TEACHOUT intervention was associated with better reading competences, regardless of gender, and regardless of the subjects taught in EOtC ([Otte et al., 2019a](#)).
- One year of EOtC mathematics teaching, corresponding to 17.9% of mathematics lessons was not found to be associated with a change in mathematics skills ([Otte et al., 2019b](#)).
- The TEACHOUT intervention was associated with better pro-social behaviour, independent of gender or social background. ([Bølling et al., 2019a](#)).
- The TEACHOUT intervention was not associated with any changes in pupils' emotional symptoms, hyperactivity/inattention, or peer relationship problems. For pupils of low socio-economic status, the TEACHOUT intervention was associated with less hyperactivity-inattention problems and less peer problems ([Bølling et al., 2019a](#)).
- The TEACHOUT intervention was associated with more new in-class dyadic peer friendship-like affiliations and transportation time during EOtC sessions was associated with maintaining dyadic peer friendship-like affiliations ([Bølling et al., 2019b](#)).

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- The TEACHOUT intervention was associated with better intrinsic school motivation, independent of gender and social background. The association was strongest for pupils with the highest level of intrinsic motivation at the beginning of the intervention ([Bølling et al., 2018](#)).
- Regular practice of EOtC was positively associated with objectively measured PA; for boys, moderate-to-vigorous PA (MVPA) was higher on a weekly basis, and light-intensity PA (LPA) was higher among boys and girls compared to normal schooldays without physical education lessons (Schneller et al., [2017a](#), [2017b](#)).