SWPBS Reporting for country implementations - Finland

Method

Research questions defined

1. Is CICO and intensified CICO (CICO Plus) support scalable to a large scale and how effective are the interventions on the average?
2. How well do the effects of CICO / CICO Plus intervention sustain long beyond the intervention period?
3. Is the method of ending the intervention related to the extent the effects of intervention sustain?

Sampling

Research project started in March 2019. In Finland, SWPBS-model based behaviour support has been researched before, and there exists a Finnish universal schoolwide support program ProKoulu (www.prokoulu.fi). Within ProKoulu research more intensive individual Check in Check out -intervention has already been researched in Finland too. Therefore, Erasmus SWPBS project is a natural continuation for the research in Finland.

ProKoulu research partners were contacted about the SWPBS project. More intensive individual support is supposed to be built on a high-quality universal support - so in Finland we targeted schools were ProKoulu has become part of the school's culture.

After initial inquiry, three municipalities Kontiolahti, Lappeenranta and Varkaus expressed interest in participating in the project and applied funding for the project together with the University of Jyväskylä research team. After the funding was ensured, there was a meeting in 27.3.2019 with all the partners where the project's progression was agreed upon.

Municipality coordinators recruited schools to participate in the program and provide all the support needed to schools and teachers. Municipality coordinators had a mission to report the situation of the universal ProKoulu support in the areas. The partners reported the situation in the meeting held with the research team in 13.5.2019. During the meeting local questions about the implementation of the universal support and the development of more intensive support, which is the project's primary mission of research and development in Finland, were discussed. 10 schools in Kontiolahti, 6 in Lappeenranta and 6 in Varkaus had a readiness to start developing tier 2 and 3 support.

Research in Finland focuses on support of individual students. Participants of the research are chosen at the schools. The CICO-teams at schools will evaluate which students would benefit from tier 2 CICO support. A discussion with the guardians and the pupil is held about participating in CICO-support and guardians and pupils are asked to give a consent to participating in the study. Pupils in CICO support have typically mild to severe behaviour problems at schools and pupil's teacher or guardians are usually the ones to raise a concern about the behaviour, which leads to the CICO-team to evaluate the pupil's situation.

Tier 3 CICO Plus support is given to students who do not respond adequately to tier 2 CICO support. Again, the CICO team together with the pupil and guardians discuss moving the pupil to more intensive support.

Data Collection Procedures

Tools

Student Measures

- Student and guardian background information

- Class demographic characteristics

- Teacher interview about the needs of the students (goals for the intervention)

- Daily report card (DRC)

- SSQ weekly

- Social validity of the CICO / CICO Plus intervention twice from the student

- Social validity of the CICO / CICO Plus intervention once from guardians

- Fidelity of the support

- Teacher interview about the ending ways of the support

Teacher/School level Measures

- Teacher background information

- CICO coach background information

- Social validity of the CICO / CICO Plus intervention

- Interview about the organization and activities of the CICO team

- School TFI (Tiered Fidelity Inventory) every school year

- School demographics

Data collection tools were selected on the basis of previous research to provide daily data, weekly data and data on acceptability and fidelity of the interventions.

Interventions

Tier2 and Tier3 intervention consists of several CICO interventions using single case experimental design, optimally with ABA design (CICO) or ABCA design (CICO Plus). Uniform baseline phase consists of a minimum of five days of Daily Report Card (DRC) measurements and three School Situation Questionnaire (SSQ) measurements. Intervention duration is not defined beforehand. Duration depends on the progress of the individual behavioral change.

Major outcome variable will be student behavior measured by the DRC, which will be filled in by the class teacher from the baseline all the way through the intervention phase and with agreed intensity (not daily) on the extended follow up phase. In addition, SSQ will be filled in weekly by the class teacher across the whole study period. Children's behavior in the whole classroom will also be evaluated by the SSQ in the beginning and at the end of the study period to offer comparison data on target child behaviour.

Tier2 CICO:

- First Baseline A (CICO) phase consist of minimum of five days of DRC measurements and three SSQ measurements
- Dependent variables: the daily percentage of points on the DRCs and weekly score of SSQ
- Fidelity is assessed by recording the percentage of DRCs available at the end of the intervention, percentage of actualized morning and afternoon meetings with the coach, percentage of hourly reports by the teacher in DRC, percentage of returned DRCs from parents.
- Fidelity was also measured by asking students' perceptions about the core components of CICO and the feedback what they received during the support from the educators. Students fill a 9-item questionnaire with the help of CICO assistant, two weeks after the CICO support has started and again after the intervention phase. This student measurement includes statements like "The school adults praised and encouraged me throughout the day." or "My parents praised me every time I got a good mark to my DRC.". Likert-like scale ranged from 1 (totally disagree) to 4 (totally agree).
- Social validity is assessed by the teachers, CICO assistants, parents and pupils with a modified version of the "Behaviour Education Program Acceptability Questionnaire (Hawken and Horner 2003). Educators and students fill 5-item questionnaire two weeks after the support begins and again after the support has ended. Parents and CICO assistants evaluate the support after it has ended.
- A structured interview with the student's teacher about the method of ending and justification for that is used at the end of the intervention. The interview includes questions like "Why did you decide to end the CICO support?" and "How did you end the CICO support?" and open-ended questions like "Why did you decide to end the CICO support that way?". The interview consisted also of more detailed questions about the method of ending the support.

Tier3 CICO Plus:

- First Baseline A (CICO) phase consist of minimum of five days of DRC measurements and three SSQ measurements.
- Base-line B data from Daily Report Card data from CICO phase (multiple baseline lengths)
- Baseline B observations in class, minimum of five measurements by trained observers
- At CICO Plus phase (C) Ongoing observations 3-5 times a week in class during intervention (15-min observation sessions using a 10-secon partial interval recording system.
- School situation questionnaire ratings by teacher weekly continue
- Possibly daily evaluation with Direct Behavior Rating approach (academic engagement, non-disruptive behavior, respect)

- Dependent variables: the percentage of intervals with problem behaviors and the daily percentage of points on the DRCs.
- Minimum 20% of observations will be made by two independently working observed to establish interobserver agreement
- Fidelity is assessed by collecting CICO Plus coach daily logbooks to monitor whether the agreed contents (five domains: goal of the session, student reflection on behavior, modeling expected behavior, concrete practice exercise of behavior, clear assignment for student to practice expected behaviors) of individual support were actualized across the agreed meetings. Aim is to observe a random selection of 2-3 sessions for each coach by a coach trainer or school support staff.

In addition to the traditional AB design alternating ways of ending the Tier 2 CICO intervention will be tested and extended follow-up of the outcomes will be carried out.

Data Analysis

Data analyses of the intervention effect of CICO interventions are conducted following principles of single-case experimental design. As an adequate number of cases of CICO has been collected over the project period (> 40 participants), the analysis will be carried with several different methods depending on the research question. Visual analysis and traditional statistics, that are specific for single-case experimental designs (eg. Tau), will be used to analyse intervention effects between different phases (eg. baseline, intervention and follow-up phase) and to quantify the magnitude of the effects. These analyses refer to research questions: 'Is CICO and intensified CICO (CICO Plus) support scalable to a large scale and how effective are the interventions on the average? and 'How well do the effects of CICO / CICO Plus intervention sustain long beyond the intervention period?'. In addition, at the group level comparisons will be made with group-level analyses (e.g. piecewise LGM and MultiSCED) to answer research questions: 'Is the method of ending the CICO-intervention related to the extent the effects of intervention sustain?'. Group level comparisons will be done related to other relevant research questions that are evolving during the data-collection period. Causal inferences will be made based on visual analysis, using test statistics that are sensitive to the predicted effect and from obtained significance (p-) and effect size values.

Description of Country Context

The Finnish Ministry of Education and Culture decides on the general principles of education policy, but education providers (mainly municipalities) have great freedom for preparing and developing local curricula based on national core curriculum (Basic Education Act 628/1998). Municipalities are responsible for providing basic education to all children residing in the area and the basic education system has been based on the philosophy of inclusion. Students are supported individually to complete their basic education. Basic education promotes students healthy growth and development and it needs to be organized to meet the learners age level and abilities.

After the 2008 reform support in schools have split into three categories: universal level support, intensified support and special support. Universal level support is for all and it is a natural part of the everyday teaching and learning process. More Intensified level supports are based on careful assessment

and long-term planning in multi-professional teams. Students are entitled to free welfare as necessary for their participation in education and welfare work aims on preventive activities that supports the entire school community (Pupil and Student Welfare Act: 1287/2013).

Related policies
National core curriculum for basic education

The national core curriculum for basic education was reformed in 2014. The core curriculum provides a common direction and basis for renewing school education and instruction. Inclusive school culture is one of the core values of the national core curriculum.

Program for developing equality and quality of basic education of Ministry of education 2020-2022

Programs goals are to enhance educational equality and academic results, strengthen the support and quality of pedagogy in schools.

Schools involved in Tier 2 and 3 in Finland

Three municipalities Kontiolahti, Lappeenranta and Varkaus are participating in the project. Kontiolahti is a municipality in Eastern Finland with 14 856 residents in 2019. During the academic year 2020-2021 there are 11 primary schools in Kontiolahti. 10 of them are participating in developing tier 2 and 3 support.

Lappeenranta is a municipality in the South-West Finland with 72 681 residents in 2019. During the academic year 2020-2021 there are 18 primary schools in Lappeenranta. 6 of them are participating in developing tier 2 and 3 support.

Varkaus is a municipality in Eastern Finland with 20 279 residents in 2019. During the academic year 2020-2021 there are 7 primary schools in Varkaus. 6 of them are participating in developing tier 2 and 3 support.

Overall, 22 schools have been participating in the trainings and developing of the tier 2 and 3 support. Between the start of the project until March 2021, 14 schools have already implemented CICO/CICO Plus support. We have gotten 41 research participants from 11 schools. 4 of the 41 participants have dropped out during the intervention.

Table 1

Schools where CICO support has been implemented and research participants from the schools.

School code	Municipality	Research participants	Dropouts
11 (Lehmo)	Kontiolahti	6	1
12 (Jakokoski)	Kontiolahti	1	
13 (Kontioniemi)	Kontiolahti		
14 (Kulho)	Kontiolahti		
21 (Joutseno)	Lappeenranta	4	1
22 (Lappee)	Lappeenranta	2	
23 (Kaukaa)	Lappeenranta	3	
24.1 (Lavola)*	Lappeenranta	2	
24.2. (Skinnarila)*	Lappeenranta		
24.3 (Sammonlahti)*	Lappeenranta		
25 (Pontus)	Lappeenranta	2	1
31 (Repokangas)	Varkaus	11	1
32 (Lehtoniemi)	Varkaus	2	
33 (Könönpelto)	Varkaus	5	
34 (Luttila)	Varkaus	3	
35 (Puurtila)	Varkaus		

* Under the same administration of Sammonlahti school is four school units, of which 3 (Lavola, Skinnarila and Sammonlahti units) have participated in the tier 2 and 3 development

No schools that have started implementing CICO and CICO Plus in the research have dropped out. Challenge has been getting new schools to participate in the research processes.

The main reasons for schools for not participating in the tier 2 and 3 research are the following:
1) Level of the universal support is not adequate.
2) Corona-lockdown in school year 2019-2020: processes in schools for developing tier 2 and 3 support have been delayed.
3) New staff joined the schools during the school year 2020-2021, that required training.
4) Workload on behalf of the schools is seen too great.

Individual students participating in the research have dropped out during the intervention. The reasons for students for dropping out of the research are the following:
1) Student has stopped going to school (change of school etc.).
2) Student is not cooperating and will not participate in the intervention.
3) During the baseline assessment or beginning of the intervention CICO team has concluded that CICO is not the right support for the student.

Description of Intervention

Coaches and researcher's role

In Finland, the research team of University of Jyväskylä together with municipal coordinators form a national leadership team that ensures the development of multitiered SWPBS support in schools. This team also identifies the challenges faced with coaching educators on Tier 2 and 3.

- Problem solve those challenges
- Discuss areas of Professional Development (PD) needs among coaches
- Provide booster trainings to coaches, as needed
- Share resources of Professional Development on the E-learning platform
- Contribute ideas on the development of E-learning modules
- Share successes with school teams.

Provide booster trainings to CICO coaches, as needed. Discuss areas of Professional Development (PD) needs among CICO Plus and coaches and provide the training. Share experiences with the international group on CICO / CICO Plus experiences in Finland. Share resources of PD on the e-learning platform. Share successes with school teams making decisions of beginning CICO / CICO Plus intervention.

Municipal coordinators have responsibilities to ensure that all participating schools have named a CICO coach in the schools. They inform the research team if there are any needs for extra training and they make sure that all teachers in the municipality are sufficiently informed.

Each school has a trained internal coach (CICO coordinator / CICO Plus coordinator) who is familiar with SWPBS individual and intensive Tiers of support. These CICO coordinators assemble a CICO team responsible for the implementation of the school's CICO support. Ensuring the necessary resource, cooperation with the principal is central. The CICO coordinator is a research contact at the school. The

implementation of CICO Plus support in multi-professional cooperation in Finland requires legal procedures (including signed parental approval of named participants and legal documentation) for the assembly of an individual support group.

Team training and support

National leadership team meetings and trainings have been held regularly since the beginning of the project. Research team is also in continuous contact with the municipal coordinators: answering questions, guiding the research, asking reports.

- Project start off meeting 27.3.2019
- Meeting and focus group interview 13.5.2019
- Meeting about the project processes in Finland, reporting and funding 20.9.2019.
- Coordinator training 10.10.2019
- Coordinator meeting 17.1.2020
- Coordinator meeting 19.8.2020
- Coordinator meeting 10.12.2020
- Coordinator meeting 28.1.2020
- Coordinator meeting 18.2.2021
- Coordinator meeting 17.3.2021

Coaches' engagement with Schools in Partner Countries

Research team and municipal coordinators are in continuous contact to schools guiding the implementation of CICO/CICO Plus intervention. School CICO teams and staff have also been trained regularly. Training and support material has been provided for schools, for example manuals for the interventions.

School team and staff trainings
- CICO training in Varkaus 20.1.2020
- CICO training in Kontiolahti 21.1.2020
- CICO training in Lappeenranta 22.1.2020
- CICO training in Lappeenranta 18.2.2020
- CICO training in Kontiolahti 20.2.2020
- CICO training in Varkaus 24.2.2020
- Online CICO training 20.8.2020
- Online CICO Plus training 9.9.2020
- Online CICO Plus training 25.11.2020
- Online training for principals of Kontiolahti schools 8.12.2020
- Online CICO Plus training 18.3.2021
- Online CICO training 13.4.2021

Description of Data collected ~~(per school, per country)~~

Table 2

Collected data in 20.4.2021

Tool	Measurements during the intervention	Data N
SSQ	weekly	514
DRC	daily	2215
Class demographics	once	37
Goal setting interview	once	37
Teacher background form	once	25
CICO coach background form	once	20
Guardian background form	once	34
Fidelity assessment	weekly	423
Social validity: pupil	twice	59
Social validity: teacher	twice	60
Social validity: coach	once	28
Social validity: guardians	once	27
Teacher ending interview	once	20
School demographics*	once	10
TFI	twice every school year	53

* School demographics form was sent in 9.4.2021 to school principals.

TFI

- Goal is to develop TFI as a tool of developing the universal support in schools.
- First assessment was in Autumn 2019 when the procedure was piloted in schools.
- In Spring 2020 TFI assessment was not performed because of the Corona-lockdown of schools.
- In Autumn 2020 most schools performed the assessment.
- Spring 2021 assessments are underway at schools.

Key Findings per country

The SWPBS project student data is still accumulating. Educator's active participation on SWPBS CICO in-service trainings promises more data from the active schools and even more schools that are ready to start to use CICO support. Later in the spring (or in the early summer) it is possible to start to analyze the data and to get first preliminary results on research questions if CICO support scalable to a large scale and how effective are the interventions are on the average.

When examining the scalability of the CICO support, it is important first to observe teachers' experiences of social validity and the school's ability to implement the CICO support with good fidelity. Here are some of the first findings on the social validity and fidelity of implementation from the first pupils who completed the entire data collection process.

Overall implementation fidelity was high (mean 89,7 %; range 73 % - 98 %). More detailed information on the implementation fidelity is compiled in the table below. It seems that schools can implement the support with high fidelity.

	check in meeting	DRC in use	parents' signature	check out meeting	data for data-based decision making
mean	89,4 %	98,8 %	80,8 %	97,3 &	82,0 %
range	72,5 %- 100 %	95,0 %- 100 %	35,7 %- 100 %	90,0 %- 100 %	12,5 %- 100 %

Social validity ratings in the beginning of the CICO support (after first two weeks) and after the intervention phase ends are compiled in the table below.

	After the first two weeks				At the end of the intervention			
	Teacher measure 1 (n=9)		Student measure 1 (n=10)		Teacher measure 2 (n=10)		Student measure 2 (n=8)	
	mean	SD	mean	SD	mean	SD	mean	SD
1. CICO support reduces problem behavior.	4,78	1,30	5,40	0,84	3,80	1,93	5,63	0,52

2. CICO support increases appropriate behaviour.	4,89	0,93	5,10	1,10	4,20	1,69	5,13	0,35
3. CICO support is easy to implement.	4,33	0,87	5,60	1,26	4,70	0,95	5,88	0,35
4. CICO support is worth the effort.	4,44	0,88	4,90	1,10	4,50	0,97	5,25	1,16
5. CICO support is worth recommending to others.	5,22	0,83	5,70	0,48	5,00	1,05	5,75	0,71

(Note: scale is 1 strongly disagree to 6 strongly agree)

These preliminary results encourage us to continue our work in CICO and CICO plus support implementation in SWPBS schools even though COVID 19 virus has slowed the accumulation of research data and schools have been forced to operate under exceptional conditions during the current school year.