

Researching Health Promotion in Schools

Schools for Health in Europe (SHE) Academy 2017

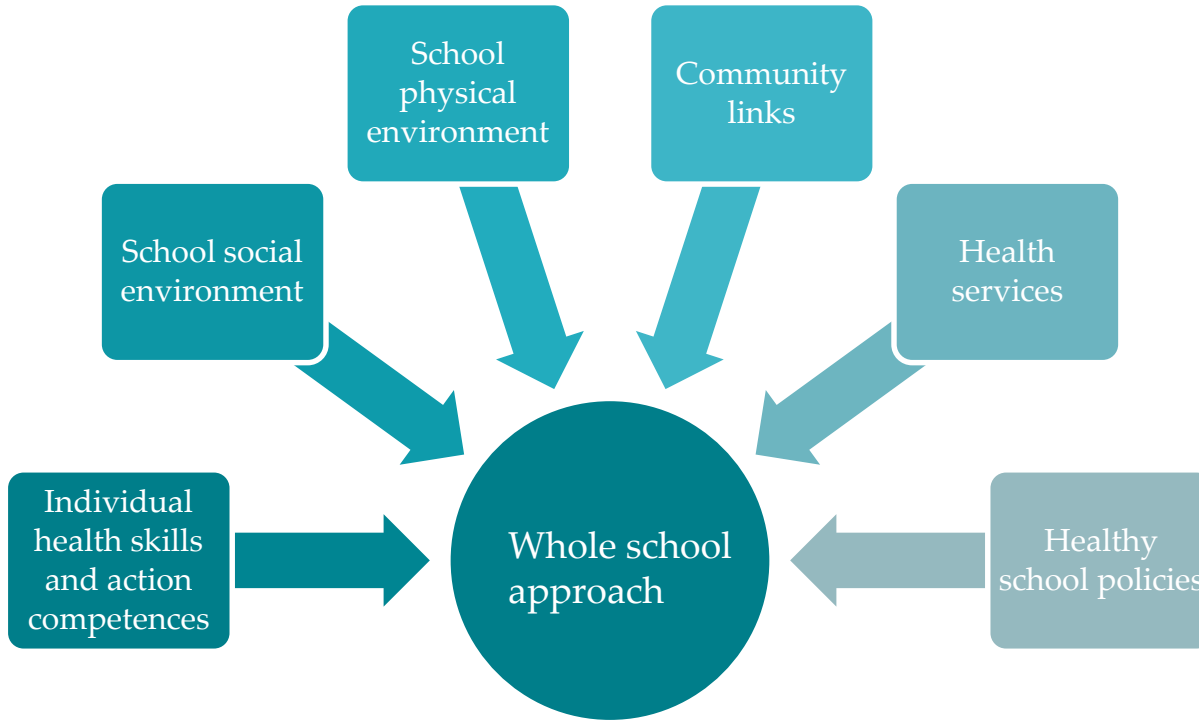
Marjorita Sormunen, PhD, University researcher

UEF // University of Eastern Finland

Content of the session

Content

- ✓ Context
- ✓ Methodology
 - ✓ Mixed methods research
- ✓ Viewpoints of stakeholders



HOW do we get information about all of these components / areas?

WHY (on earth) should we stay inside one (qual / quant) methodological paradigm?

Finnish parental involvement ethos, health support, health education knowledge and participation: results from a 2-year school health intervention

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Abstract

A 2-year, participatory action research school health study focused on developing components for home–school partnerships to support chil-

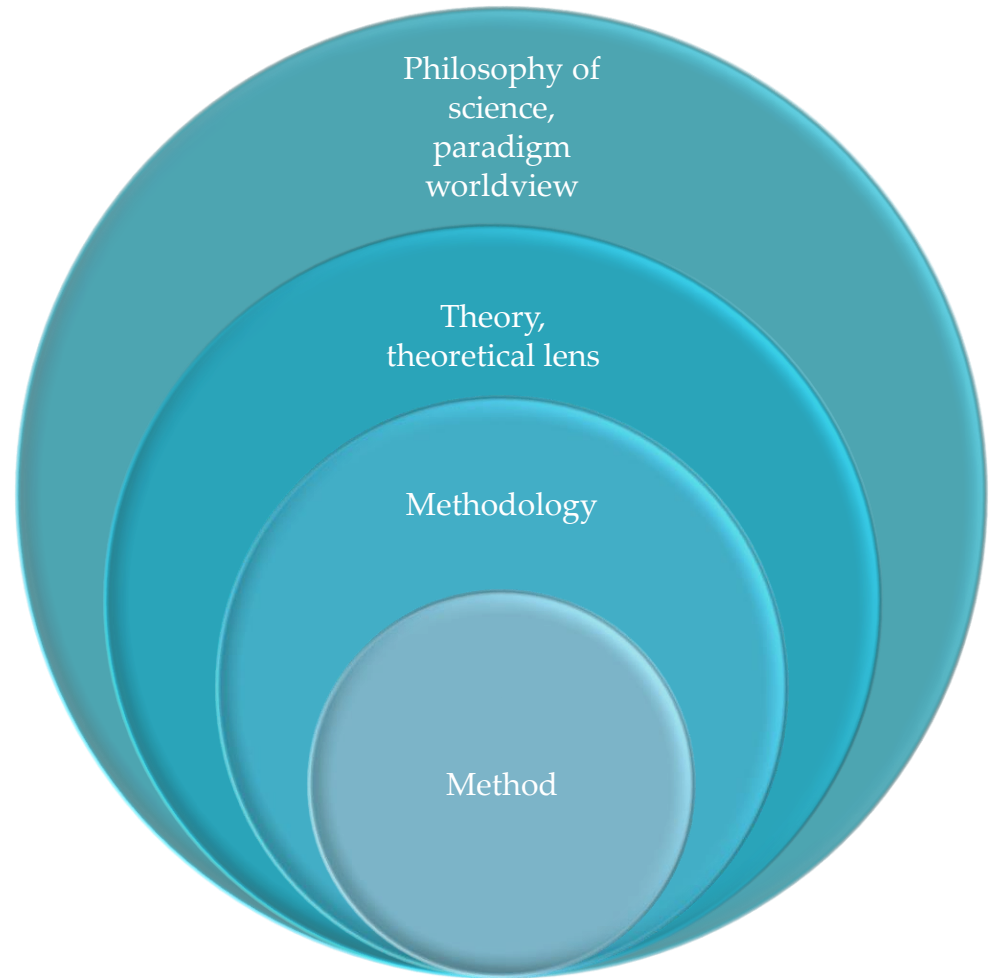
Introduction

The physical environment, surrounding ethos and relationships are essential elements of health, either supporting or undermining it [1]. The setting

Methodology - methods

Four levels for developing a research study

(Adapted from Crotty, 1998; in Creswell & Plano Clark, 2011, pp. 39–42)



RESEARCH QUESTION

As *participatory action research* aims to develop practice, *the approach that most emphasizes the practical aspect of knowledge, mixed methods research (MMR), was used* (Johnson & Onwuegbuzie, 2004; Johnson, Onwuegbuzie, & Turner, 2007; Creswell & Plano Clark, 2011). By collecting *both qualitative and quantitative* data, it was possible to *obtain the most comprehensive picture* of school-aged children's primary health learning environments *from the viewpoint of pupils, their parents, and school personnel*. The *design of this study most closely resembles Creswell and Plano Clark's (2011) embedded mixed methods design with qualitative and quantitative data collection conducted simultaneously* at pre-, mid-, and post-intervention. In this study, *mixed methods* allowed us to *gain a wider view of the research questions addressed and enabled the use of multiple research phases during the two-year intervention study to achieve its purpose* (Creswell & Plano Clark, 2011).

Sormunen 2012, p. 29

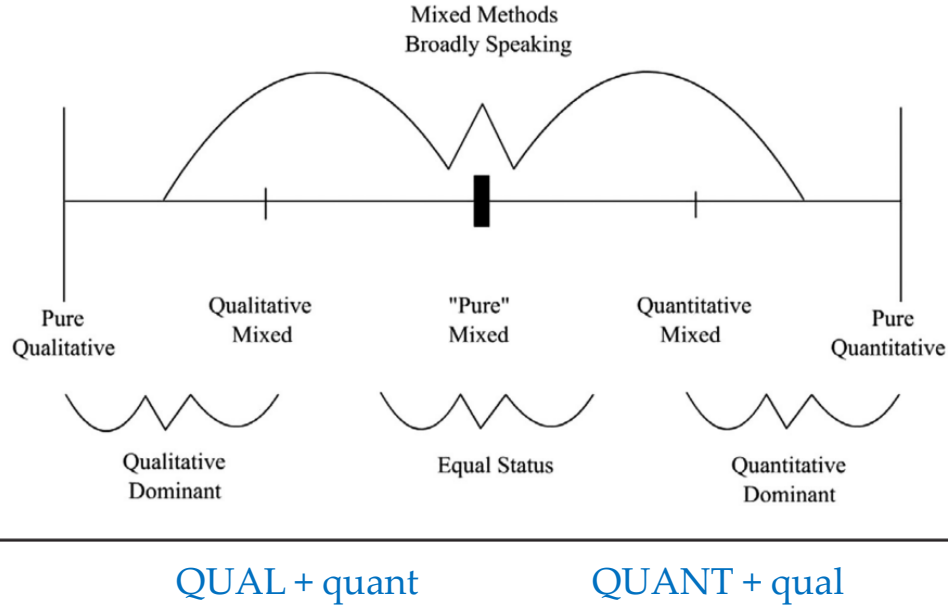
WHY, IN TERMS OF METHODOLOGY?

WHY, IN TERMS OF RESEARCH PURPOSE AND QUESTIONS?

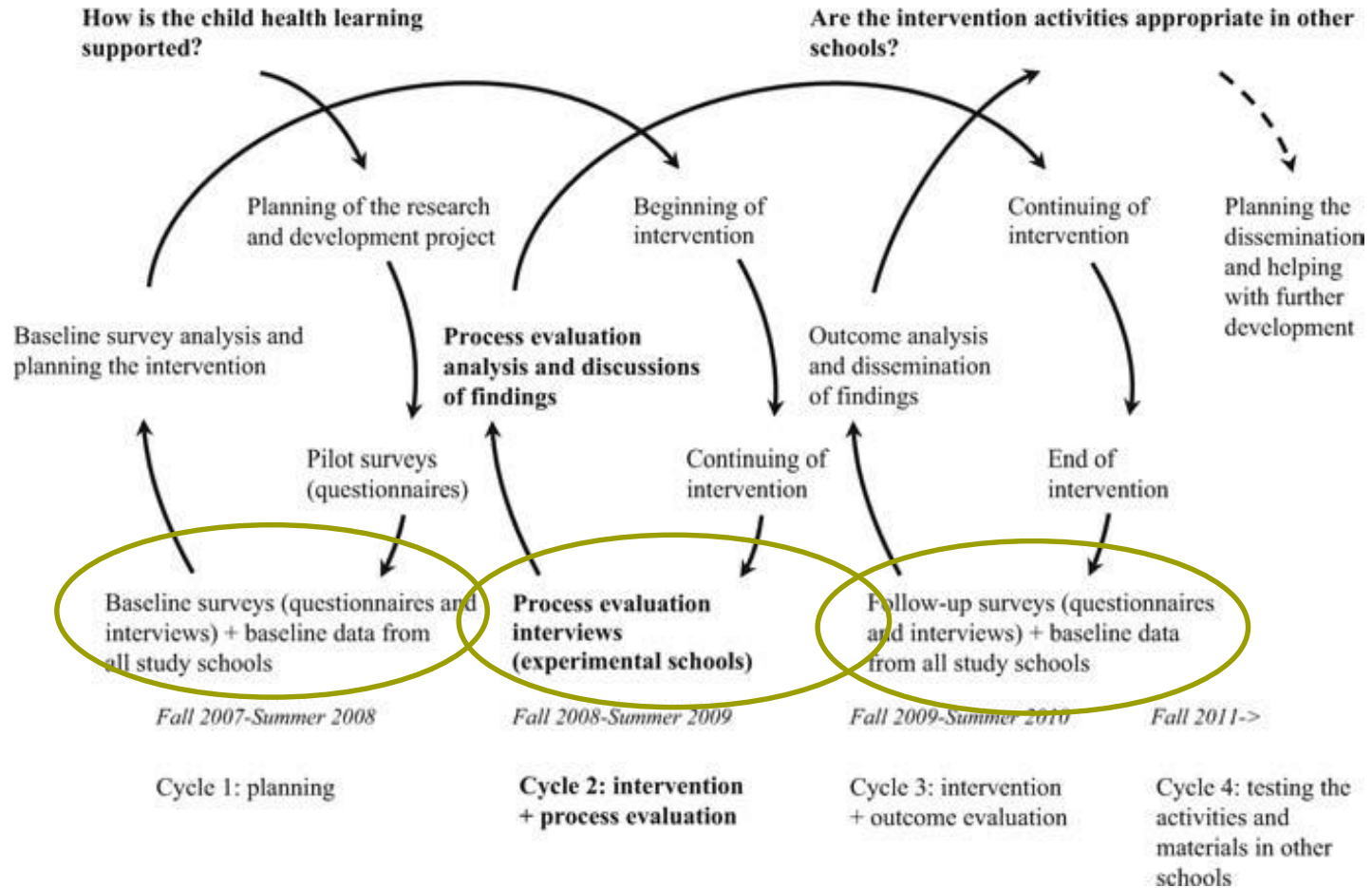
FROM WHOM (DIFFERENT VIEWPOINTS)?

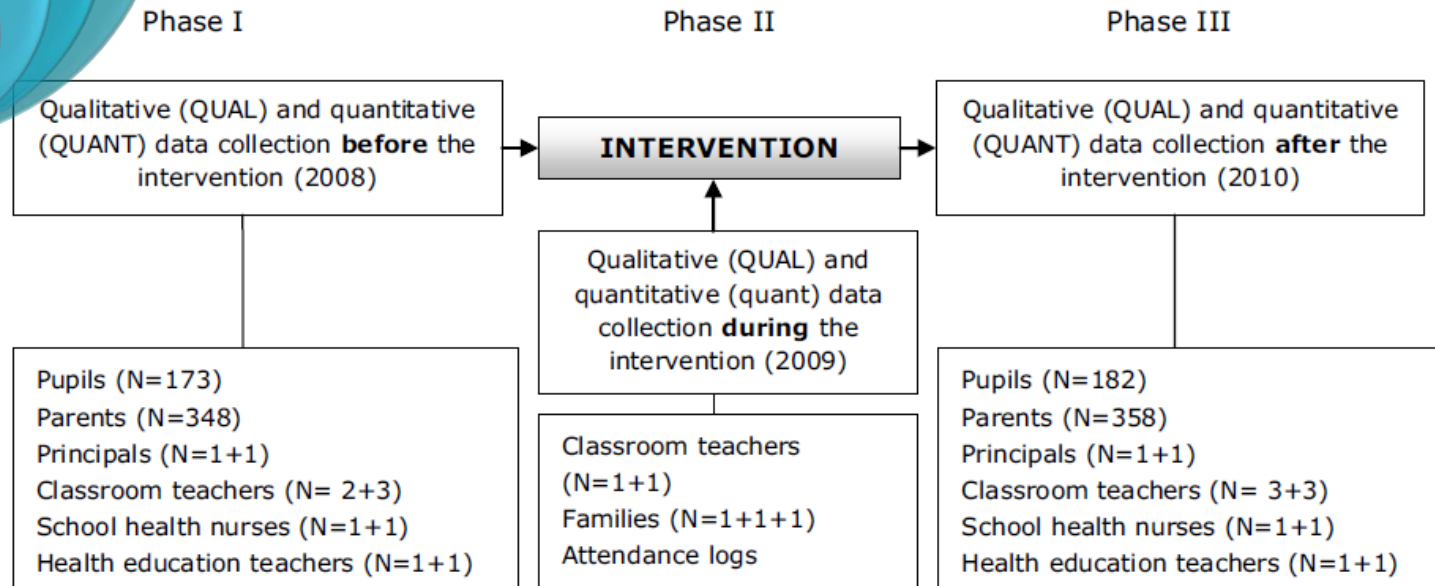
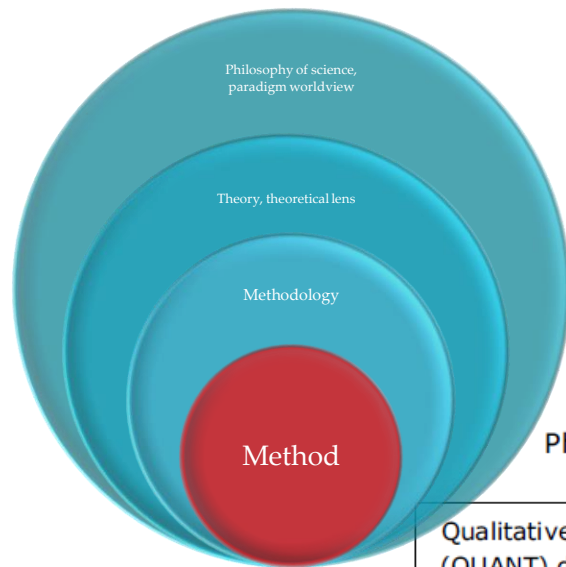
WHICH MMR DESIGN FITS BEST?

Graphic of the Three Major Research Paradigms, Including Subtypes of Mixed Methods Research



Johnson et al. 2007





Sormunen 2012

Example of embedded results (process evaluation)

Interactive health homework. The teachers and families perceived the packages as informative and a new way to teach health issues. **The homework return rates were 100 per cent in both intervention schools.** According to classroom teachers, **the majority of the children did the homework tasks excellently, and only few parents complained of their role in the homework.** Teachers also perceived the homework as a good source of information for parents.

“We got the homes involved; some parents said that it was hard and difficult, but in my opinion, it was extremely good that they had to sit beside their child and discuss about these important things. And they (the packages) were remarkably well done. Mothers commented how the cooking was done. It was really good” (School B teacher).

Numerical data

Textual data

Example of discussion, limitations: (process evaluation)

Third, the process was evaluated in the middle of the intervention by **viewing the school statistics, project documents** and **interviews**.

There could have been other methods of inquiry, for example **observations or/and questionnaires**. However, the choice of qualitative interviews as the method was to obtain in-depth information from the key participants, not to obtain a large amount of knowledge.

6 Results

The quantitative and qualitative findings of this study are combined in the results section. Article I includes mixed method data from pupils, parents, classroom teachers, and principals, and Article II contains quantitative data from parents. Mixed methods are again used in the process evaluation (Article III), which includes families and classroom teachers. The outcome evaluation (Article IV) is executed based on quantitative measures from parents.

6.1 IDENTIFICATION OF THE CURRENT STAGE OF HOME-SCHOOL COLLABORATION AND HOMES' AND SCHOOLS' RESPONSIBILITIES IN CHILDREN'S HEALTH EDUCATION (ARTICLES I-II)

The *parents* were generally interested in their children's schooling, participated in school activities from moderate to good levels, and valued home-school collaboration (Article I). Parents, however, did not enter the school except when specifically invited, nor did they participate in their children's school day much at all. Traditional methods of home-school collaboration, such as parents' evenings, were viewed as important. In their current form,

Sormunen 2012

- 1st: Sormunen M, Tossavainen K & Turunen H. 2011. Home-school collaboration in **the view of fourth-grade pupils, parents, teachers, and principals** in the Finnish education system. The School Community Journal 21(2): 185-212. **QUANT+QUAL**
- 2nd: Sormunen M, Tossavainen K & Turunen H. 2013. **Parental perceptions** of the role of home and school in elementary school children health education in Finland. Health Promotion International 28(2): 244-256. **QUANT**
- 3rd: Sormunen M, Saaranen T, Tossavainen K & Turunen H. 2012. Process evaluation of an elementary school health learning intervention in Finland. Health Education 112(3): 272-291. **QUAL + quant**
 - **Families (in this case: mother, father, child), teachers**
- 4th: Sormunen M, Tossavainen K & Turunen H. 2013. Finnish **parental** involvement ethos, health support, health education knowledge and participation: results from a 2-year school health intervention. Health Education Research 28(2): 179-191. **QUANT**
- 5th: Sormunen M, Turunen H, Tossavainen K. 2016. Self-reported bedtimes, television-viewing habits and parental restrictions among Finnish **schoolchildren** (aged 10-11 years, and 2 years later aged 12-13 years): Perspectives for health. European Journal of Communication 31(3): 283-298. **QUANT**

=PhD-thesis

What characteristics / skills should a researcher have when doing mixed method research?

What can be the challenges in using mixed methods?

Views of different groups, who work and learn at school



CHILDREN's views, experiences, and actions (also data collection methods)



"My shoes. I'm afraid of that I will trip while running because of my shoelaces."

"I can't understand, why there is a parking area so close to fabulous forest, where we use to play."

Eskola S, Tossavainen K, Bessems K, Sormunen M. **Children's perceptions** on factors related to physical activity in schools. *(submitted)*

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"Adults at school, they limit us too much."



Photographic data

Sormunen M, Miettinen H. 2017.
Health behavior tracking via
mobile game: A case study
among school-aged children.
Cogent Education 4: 1311500. DOI:
10.1080/2331186X.2017.1311500

The image displays a grid of 10 screenshots from a mobile game interface, showing photographic data of children's meals. Each screenshot includes a photo of food, a text prompt in Finnish, and a timestamp.

- Screenshot 1 (Top Left):** Shows a 'Take photo' button and a text prompt: 'Mikäli et syönyt iltapalaa, rastita tämä kohta.' (If you haven't eaten dinner, mark this spot). Buttons for 'Pass' and 'Submit' are visible.
- Screenshot 2 (Top Row, 2nd):** ID: 203. Photo: Bread with cucumber slices and a purple cup of milk. Prompt: 'Mikäli et syönyt iltapalaa, rastita tämä kohta.' Timestamp: 01.10.2015 20:13.
- Screenshot 3 (Top Row, 3rd):** ID: 209. Photo: A slice of ham and a blue cup of milk. Prompt: 'Mikäli et syönyt iltapalaa, rastita tämä kohta.' Timestamp: 01.10.2015 20:37.
- Screenshot 4 (Top Row, 4th):** ID: 108. Photo: A sandwich. Prompt: 'Mikäli et syönyt iltapalaa, rastita tämä kohta.' Timestamp: 20.08.2015 20:20.
- Screenshot 5 (Middle Row, 1st):** ID: 105. Photo: Two bowls of porridge. Prompt: 'Mikäli et syönyt iltapalaa, rastita tämä kohta.' Timestamp: 20.08.2015 21:44.
- Screenshot 6 (Middle Row, 2nd):** ID: 104. Photo: Watermelon slices and a red cup of milk. Prompt: 'Mikäli et syönyt iltapalaa, rastita tämä kohta.' Timestamp: 20.08.2015 21:16.
- Screenshot 7 (Middle Row, 3rd):** ID: 207. Photo: A glass of milk and a slice of cheese. Prompt: 'Mikäli et syönyt iltapalaa, rastita tämä kohta.' Timestamp: 01.10.2015 20:26.
- Screenshot 8 (Middle Row, 4th):** ID: 106. Photo: A sandwich and a glass of milk. Prompt: 'Mikäli et syönyt iltapalaa, rastita tämä kohta.' Timestamp: 20.08.2015 20:02.
- Screenshot 9 (Bottom Row, 1st):** ID: 205. Photo: A sandwich.
- Screenshot 10 (Bottom Row, 2nd):** ID: 111. Photo: A sandwich.
- Screenshot 11 (Bottom Row, 3rd):** ID: 107. Photo: A sandwich.
- Screenshot 12 (Bottom Row, 4th):** ID: 206. Photo: A sandwich.

Missä aiot säilyttää kännykkääsi ensi yönä?

- Omassa sängyssä
- Yöpöydällä
- Oman huoneen työpöydällä
- Sängyn vieressä lattialla
- Laukussa tai repussa
- Toisessa huoneessa

Jossain muualla, missä?

Pass Submit

<p>203</p> <p>0 / 0 00:15</p> <ul style="list-style-type: none"> <input type="checkbox"/> Omassa sängyssä <input type="checkbox"/> Yöpöydällä <input type="checkbox"/> Oman huoneen työpöydällä <input type="checkbox"/> Sängyn vieressä lattialla <input checked="" type="checkbox"/> Laukussa tai repussa <input type="checkbox"/> Toisessa huoneessa <p>01.10.2015 19:45</p>	<p>209</p> <p>0 / 0 00:22</p> <ul style="list-style-type: none"> <input type="checkbox"/> Omassa sängyssä <input checked="" type="checkbox"/> Yöpöydällä <input type="checkbox"/> Oman huoneen työpöydällä <input type="checkbox"/> Sängyn vieressä lattialla <input type="checkbox"/> Laukussa tai repussa <input type="checkbox"/> Toisessa huoneessa <p>01.10.2015 13:17</p>	<p>108</p> <p>0 / 0 00:50</p> <ul style="list-style-type: none"> <input type="checkbox"/> Omassa sängyssä <input type="checkbox"/> Yöpöydällä <input type="checkbox"/> Oman huoneen työpöydällä <input type="checkbox"/> Sängyn vieressä lattialla <input type="checkbox"/> Laukussa tai repussa <input type="checkbox"/> Toisessa huoneessa <p>puhelin parkissa keittiössä</p> <p>20.08.2015 20:...</p>
<p>105</p> <p>0 / 0 00:06</p> <ul style="list-style-type: none"> <input type="checkbox"/> Omassa sängyssä <input type="checkbox"/> Yöpöydällä <input type="checkbox"/> Oman huoneen työpöydällä <input checked="" type="checkbox"/> Sängyn vieressä lattialla <input type="checkbox"/> Laukussa tai repussa <input type="checkbox"/> Toisessa huoneessa 	<p>104</p> <p>0 / 0 00:14</p> <ul style="list-style-type: none"> <input type="checkbox"/> Omassa sängyssä <input checked="" type="checkbox"/> Yöpöydällä <input type="checkbox"/> Oman huoneen työpöydällä <input type="checkbox"/> Sängyn vieressä lattialla <input type="checkbox"/> Laukussa tai repussa <input type="checkbox"/> Toisessa huoneessa 	<p>106</p> <p>0 / 0 00:11</p> <ul style="list-style-type: none"> <input type="checkbox"/> Omassa sängyssä <input checked="" type="checkbox"/> Yöpöydällä <input type="checkbox"/> Oman huoneen työpöydällä <input type="checkbox"/> Sängyn vieressä lattialla <input type="checkbox"/> Laukussa tai repussa <input type="checkbox"/> Toisessa huoneessa

Multiple-choice data

Apps Bookmarks 30+ Cool Course Ta... New Bloom's Taxon... dalygenius.com/wp... Journal of Teaching ... Taylor & Francis Aut... Opetubi - Etusivu Other book...

<p>202</p> <p>0 / 0 00:35</p> <p>8.42</p> <p>03.10.2015 08:42</p>	<p>209</p> <p>0 / 0 00:15</p> <p>8.35</p> <p>03.10.2015 08:40</p>	<p>101</p> <p>0 / 0 00:20</p> <p>09.35</p> <p>22.08.2015 09:34</p>	
<p>206</p> <p>0 / 0 00:25</p> <p>8.20</p> <p>03.10.2015 08:35</p>	<p>110</p> <p>0 / 0 00:07</p> <p>7:45</p> <p>22.08.2015 08:16</p>	<p>105</p> <p>0 / 0 00:11</p> <p>7.45</p> <p>22.08.2015 07:52</p>	
<p>109</p> <p>0 / 0 00:14</p> <p>8.45</p> <p>22.08.2015 08:43</p>	<p>103</p> <p>0 / 0 00:11</p> <p>8.56</p> <p>23.08.2015 09:12</p>	<p>111</p> <p>0 / 0 00:07</p> <p>9.10</p> <p>22.08.2015 09:16</p>	<p>202</p> <p>0 / 0 00:35</p> <p>8.42</p> <p>03.10.2015 08:42</p>
<p>204</p> <p>0 / 0 00:12</p> <p>7.31</p> <p>03.10.2015 07:38</p>	<p>106</p> <p>0 / 0 00:33</p> <p>8.18</p> <p>22.08.2015 08:20</p>	<p>201</p> <p>0 / 0 00:22</p> <p>11.20</p> <p>03.10.2015 17:35</p>	<p>207</p> <p>0 / 0 00:18</p> <p>7.40</p> <p>03.10.2015 07:39</p>
<p>107</p> <p>0 / 0 00:07</p> <p>7.00</p> <p>22.08.2015 07:48</p>	<p>205</p> <p>0 / 0 00:12</p> <p>7.30</p> <p>03.10.2015 07:38</p>	<p>202</p> <p>0 / 0 00:35</p> <p>8.42</p> <p>03.10.2015 08:42</p>	<p>108</p> <p>0 / 0 00:18</p> <p>9.15</p> <p>22.08.2015 09:16</p>
104	203	102	

Numerical data

PARENTS' views (& cultural issues)

Moving to the theme of health, **the key finding** was that the parents perceived the competence of their child's school to be low regarding teaching of health issues. Moreover, while the majority of parents considered that health education belongs in school, **less than one-fourth indicated it as a theme as important as mathematics and language.**

(Jourdan D, Pironom J, Simar C, Sormunen M. Health education in schools: Factors influencing parents' views on home-school relationship **in France**. *International Journal of Health Promotion and Education*, in press. DOI: 10.1080/14635240.2017.1408419)

In the area of washing and hygiene, the difference between parents was especially large: **over 90% of Finnish parents perceived the area as a responsibility of the home, whereas less than 50% of Russian parents did so.** By contrast, Russian parents saw the areas of the human body and its functions, and sexuality and reproduction as responsibilities of the home.

(Sormunen M, Goranskaya S, Kirilina V, Tossavainen K. Roles of home and school in children's health learning: views of **Finnish and Russian** parents and teachers. *Russian Journal of Communication*, in press. DOI: 10.1080/19409419.2017.1381570)

TEACHERS' views

Among teachers in both regions, the **greatest differences** were presented in the areas of sexuality and reproduction, emotional expression and regulation, and the human body and its functions.

Compared to their Finnish counterparts, **Russian teachers indicated the area of sexuality and reproduction as a greater responsibility of the home**. Russian parents had similar views, and this finding strengthens the conclusion that the results reflect cultural differences and traditions. **Finnish teachers strongly responded that this area was a mutual responsibility of home and school**. (Sormunen et al., *in press*)

SCHOOL MANAGEMENT's views

The principals cautiously brought out that home–school collaboration **should be developed**, but eventually backed off the idea by listing inhibitory arguments in another sentence.

One principal described the “Welcome to the school” phrase as polite rhetoric. **Parents' visits were not necessarily expected** for more than regular events, such as bringing the child to school, parents' evenings, or celebrations.

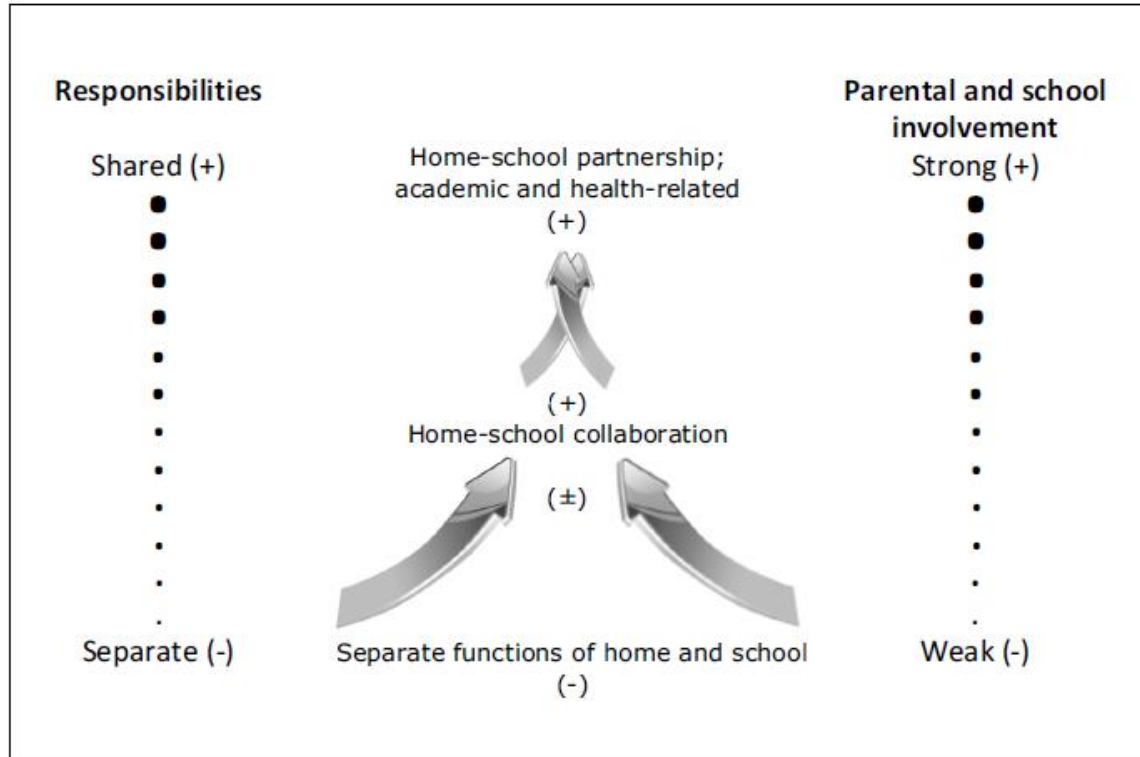
The principals themselves **would like to be with the pupils more** and saw meeting with the pupils as important, but they saw no possibility to do that because of the lack of time. **The task of administration has multiplied in recent years**, as has dealing with pupils' problematic cases.
(Sormunen et al. 2011)

Who else?

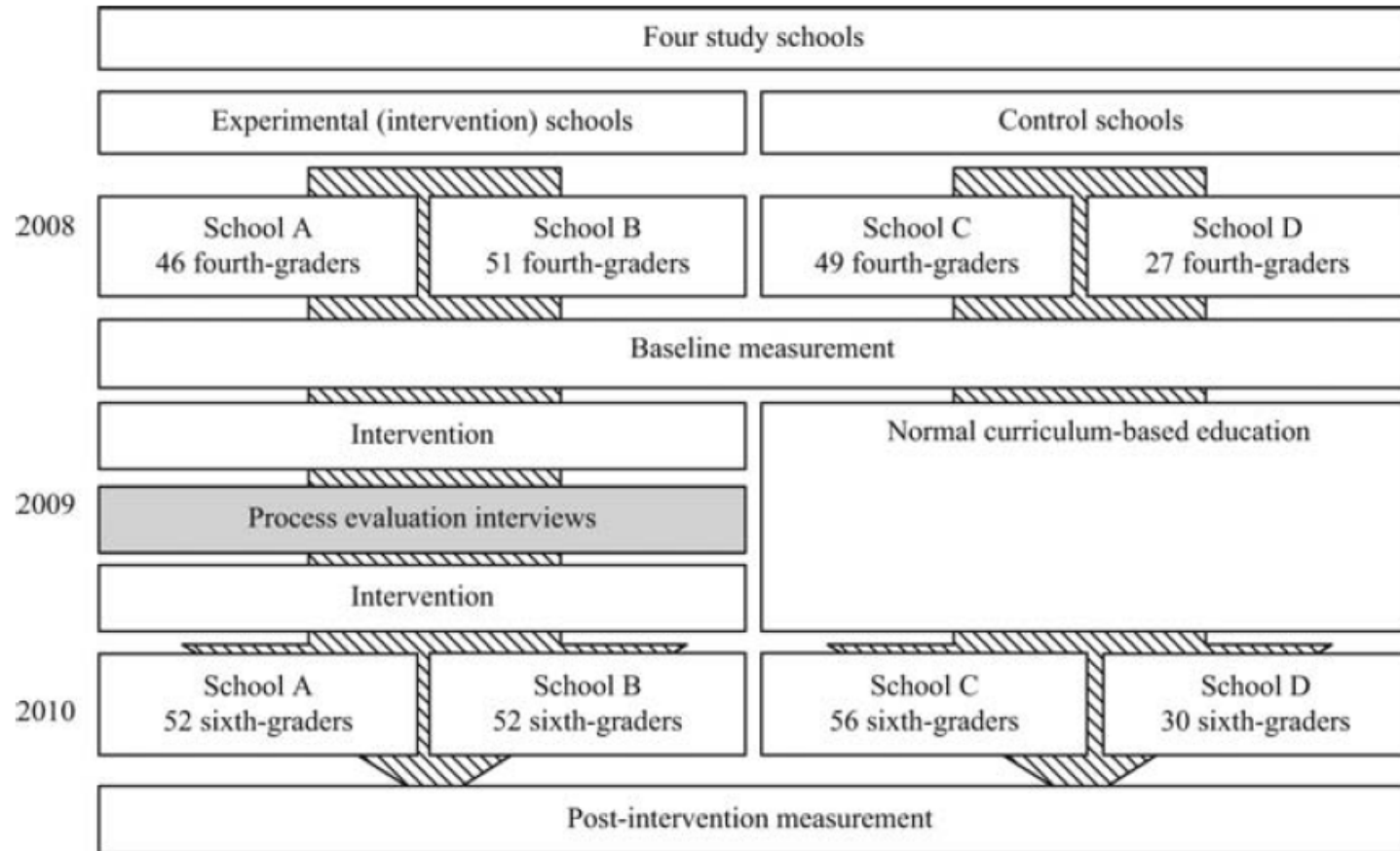
- Cleaners
- Janitors
- School canteen personnel
- Psychologists
- School assistants
- School health nurses
- ...

Some tips 😊

1. Theory / concepts



2. Study design / structure



3. Use up-to-date instruments / be careful with the operationalization / test beforehand!

Example: FAS – family affluence scale

FAS I

Does your family own a car, van or truck? (No [0]; Yes, one [1]; Yes, two or more [2])

FAS II

Do you have your own bedroom for yourself? (No [0]; Yes [1])

FAS III

During the past 12 months, how many times did you travel away on holiday with your family? (Not at all [0]; Once [1]; Twice [2]; More than twice [3])

How many computers does your family own? (None [0]; One [1]; Two [2]; More than two [3])

FAS I, FAS II, FAS III

Table 3 FAS III Development and Validation Study: recommendations

Variable (history)	FAS III Item wording	Recommendation: FAS III DVS
(C21abroad, refined):	How many times did you travel abroad for holiday/vacation last year?	Item to be retained and re-worded as: 'How many times did you and your family travel out of (name of country) abroad for holiday/vacation last year?'
(C25ownbed, refined):	Do you have a bed of your own?	Item to be rejected.
(C32owncomp, refined):	Do you have your own computer?	Item to be rejected.
(C22afford, new):	How many times in the last month have you not been able to afford to do	Insufficient data to judge its validity. Item to be rejected.
(C23outdoor, new):	something you wanted to do (e.g. go out with friends, do sports, buy	Insufficient data to judge its validity.
(C26holhome, new):	clothes, go to a disco)?	Item to be rejected.
(C27dishwash, new):	Does your home have an outdoor space attached, (e.g. garden)?	The term 'outdoor space' needs greater clarity and the item requires subsequent piloting. Item to be rejected.
(C27washer, new):	Does your family have a holiday (vacation) house/apartment?	Item to be rejected.
(C27dryer, new):	Does your family have a dishwasher?	Item to be retained
(C28internet, new):	Does your family have a washing machine?	Item to be retained
(C29paywork, new):	Does your family have a tumble dryer?	Item to be retained
(C30money, new):	Do you have internet access at home?	Item to be retained
(C31clothes, new):	Do your parents pay people to do work in your home (e.g. cleaning,	Item to be retained
(C33bathroom, new):	cooking, gardening)?	Item to be retained and re-worded as: 'Do your parents pay people from outside the family to work at your home on a regular (that is, on a daily or weekly) basis?'
(C34ipod, new): .	Do you receive pocket money?	Item to be retained.
	Do you wear clothes that belonged to others before you (secondhand clothes) or share clothes with your siblings?	Item to be rejected
	How many bathrooms (room with a bath or shower) are in your home?	Item to be retained
	Do you have an Ipod or other personal music player?	Item to be rejected.

4. Don't be afraid to use experimental designs

Table IV. Parental involvement ethos, health education knowledge, health education participation and health support by intervention and control schools' parents' in pre-test 2008 and post-test 2010

Variables (sum scores)	Intervention schools		Control schools		Interaction, <i>P</i> -value	Effect size, Cohen's <i>d</i>
	Pre-test Mean (SD)	Post-test Mean (SD)	Pre-test Mean (SD)	Post-test Mean (SD)		
Parental involvement ethos	3.56 (0.65)	3.91 (0.57)	3.69 (0.64)	3.42 (0.62)	<0.001	0.57
Health education knowledge	2.30 (1.00)	2.87 (0.99)	2.42 (1.01)	2.30 (0.99)	0.002	0.60
Health education participation	1.96 (0.77)	1.86 (0.86)	2.03 (0.84)	2.18 (0.77)	0.193	-0.12
Health support	1.77 (0.57)	1.98 (0.62)	2.03 (0.52)	1.94 (0.48)	0.02	0.35

Means; scores of opinions and experiences of parents range from 1 to 5, with higher scores indicating greater agreement or actualized activity. Interaction; Intervention/control school \times 2008/2010, obtained from two-way analysis of variance. Cohen's *d*; effect size measured from means and SDs (pre- and post-test) within intervention schools, indicating small effect ($d = 0.20$), medium effect ($d = 0.50$), or large effect ($d = 0.80$ or above).

5. Know what you are doing

Table II. Baseline characteristics of fourth-grade parents by two intervention and two control schools

Variable	Intervention schools (n = 109) n (%)	Control schools (n = 75) n (%)	P-value
Gender			
Male	46 (42.2)	32 (42.7)	0.54
Female	63 (57.8)	43 (57.3)	
Year of birth			
1950–59	12 (11.2)	7 (9.3)	0.84
1960–69	57 (53.3)	43 (57.3)	
1970–79	38 (35.5)	25 (33.3)	
Education			
Comprehensive school	12 (11.1)	2 (2.7)	0.11
Secondary education	75 (69.4)	56 (74.7)	
Tertiary education	21 (19.4)	17 (22.7)	
Work status			
Regular full time work	51 (47.2)	39 (52.0)	0.19
Shift work	21 (19.4)	13 (17.3)	
Entrepreneur	12 (11.1)	15 (20.0)	
Parental leave/homemaker	10 (9.3)	4 (5.3)	
Not available for work ^a	14 (13.0)	4 (5.3)	

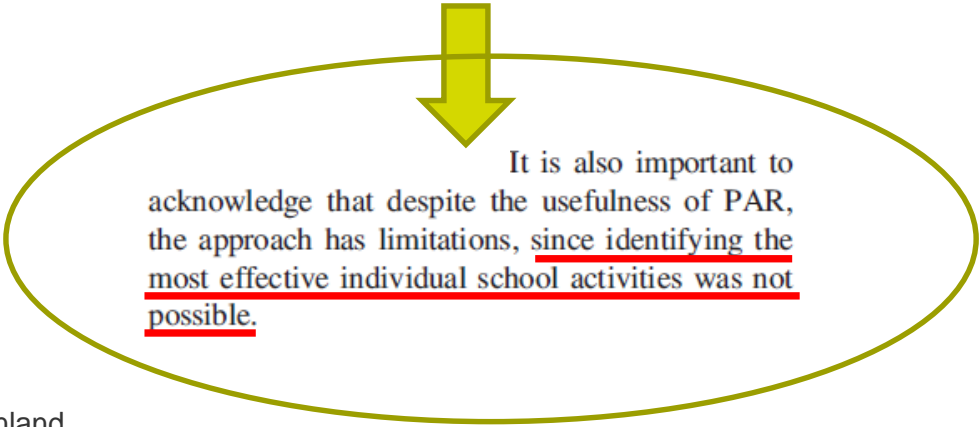
'parent'. The differences between parents' baseline demographics (gender, year of birth, education and work status) by intervention and control schools were evaluated by chi-square test. The groups of intervention ($n = 109$) and control ($n = 75$) schools' parents were comparable ($P > 0.05$) at baseline in 2008 (Table II).

6. Know the limitations of your research

Table IV. Parental involvement ethos, health education knowledge, health education participation and health support by intervention and control schools' parents' in pre-test 2008 and post-test 2010

Variables (sum scores)	Intervention schools		Control schools		Interaction, <i>P</i> -value	Effect size, Cohen's <i>d</i>
	Pre-test Mean (SD)	Post-test Mean (SD)	Pre-test Mean (SD)	Post-test Mean (SD)		
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Means; scores of opinions and experiences of parents range from 1 to 5, with higher scores indicating greater agreement or actualized activity. Interaction; Intervention/control school \times 2008/2010, obtained from two-way analysis of variance. Cohen's *d*; effect size measured from means and SDs (pre- and post-test) within intervention schools, indicating small effect ($d = 0.20$), medium effect ($d = 0.50$), or large effect ($d = 0.80$ or above).



It is also important to acknowledge that despite the usefulness of PAR, the approach has limitations, since identifying the most effective individual school activities was not possible.

7. Use the data –not only for research purposes, but also for the developmental purposes

Parents' conferences. The parent-teacher conferences were held in early spring 2009 and they were successful, although they revealed a large number of pupil problems, leading to multiple pupil welfare actions and hiring a special needs assistant in school A. The number of pupils, who needed extra help with their learning in that class, was alarming, as the classroom teacher described:

If you think, that there are 52 pupils (altogether in School A classes), of which 21 pupils need special education..that was the situation [. . .] and when the psychologist examined and gave feedback (after parent-teacher discussions), these pupils were not supposed to be in this class at all [. . .] but we have no place to put them. Since we got the special needs assistant in the classroom, I haven't been so tired [. . .] It helped a lot, clearly we have gained more results with the pupils, better grades from the tests – and the feeling for the pupil, that help is available [. . .] we got so much information through the discussions (with parents) and the psychologist.

Lastly:

Very important is that we learn about our study population and the setting = school, school environment, school community

WHAT are the characteristics of **this school** and how is a typical school year like?

- = understanding the context and knowing enough when you actually enter the school or even make contacts
- = "talking the same language"
- = our vs. mine
- we adapt to school system, not vice versa
- "returning" the results back to school!

References / literature:

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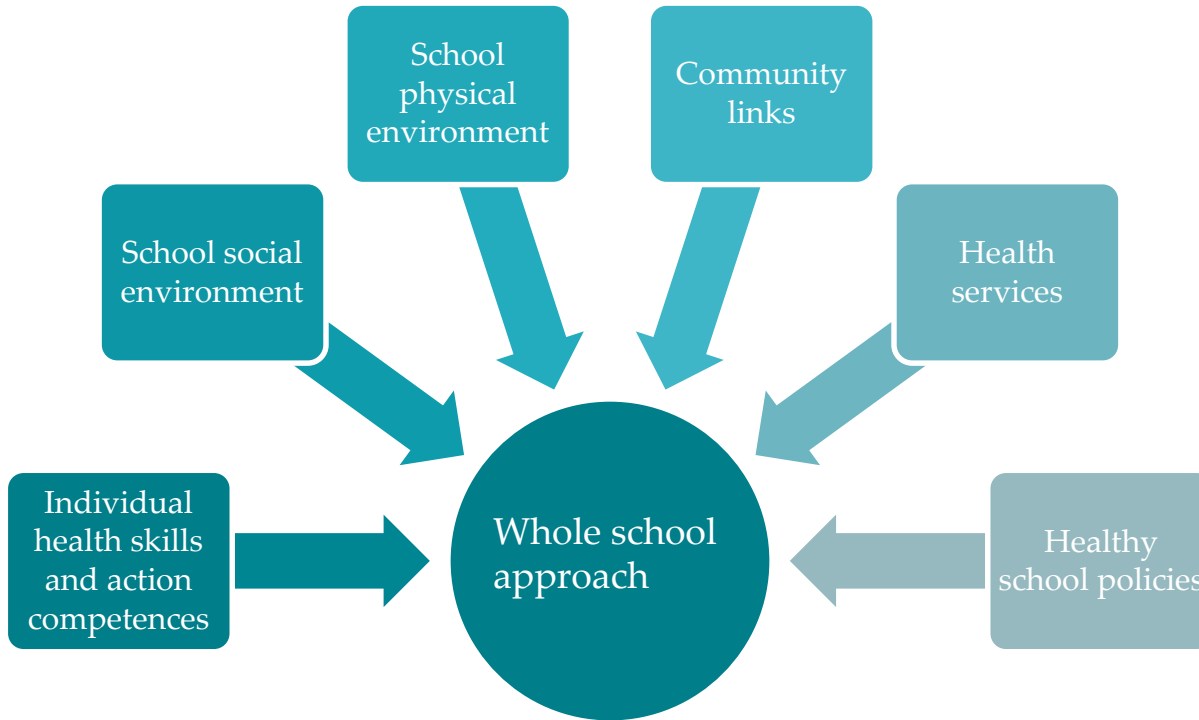
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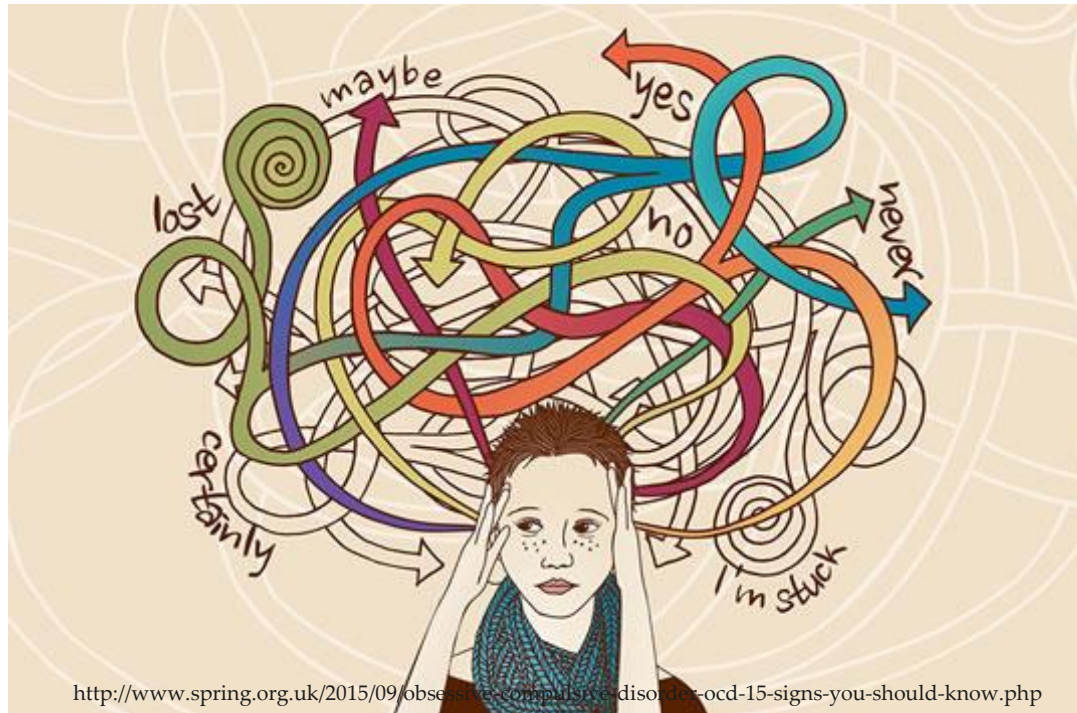
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HOW do we get information about all of these components?

WHY should we stay inside one (qual / quant) methodological paradigm?

"If you can't explain it to a six year old, you don't understand it yourself." Albert Einstein



Thank you!



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