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Schweizerische Zeitschrift für Bildungswissenschaften 42 (2020) 2, S. 501-523

Quellenangabe/ Reference:
Dessibourg, Malika S.: Preservice teachers in Switzerland: effects of a thinking journal on self-efficacy beliefs regarding behaviour management - In: Schweizerische Zeitschrift für Bildungswissenschaften 42 (2020) 2, S. 501-523 - URN: urn:nbn:de:0111-pedocs-215058 - DOI: 10.25656/01:21505

https://nbn-resolving.org/urn:nbn:de:0111-pedocs-215058
https://doi.org/10.25656/01:21505

in Kooperation mit / in cooperation with:

http://www.rsse.ch/index.html

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Preservice Teachers in Switzerland: Effects of a Thinking Journal on Self-Efficacy Beliefs Regarding Behaviour Management

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How to improve behaviour management education? We take a step towards answering this question by presenting the use of a thinking journal during the high-responsibility placement of 47 preservice teachers. A longitudinal investigation was used to bring empirical evidence that using such a device has a positive impact on their self-efficacy beliefs. A repeated measures ANOVA was conducted and determined a significant difference in self-efficacy beliefs regarding behaviour management across three time points. The usefulness of the thinking journal was also investigated. Results highlight the supportive aspect of this device in the face of difficult teaching situations as well as important divergences between the perceptions of preservice teachers and those of their trainers. The study took place in Switzerland, during the last semester of teacher training.

Introduction

Over the past few decades, behaviour management has been and still is very often cited in literature as one of the biggest challenges secondary¹ school preservice teachers, but also experienced teachers have to face (Dicke et al., 2015). Research on this subject often points to difficulties or deficiencies of teacher education related directly to this field (Eisenman et al., 2015; Hamilton, 2015; Smart & Igo, 2010). Yet, developing classroom management, which includes behaviour management practices, is seen as something central to the training of preservice teachers (Sempowicz & Hudson, 2011), especially if we consider the fact that it is only once preservice teachers manage to control their classroom that lesson content becomes the centre of their attention (Furlong & Maynard, 1995). A number of researchers have pointed out that teachers’ sense of self-efficacy has a positive influence on their ways of managing behaviour (Gaudreau et al., 2012; Tschannen-Moran & McMaster, 2009). This study aims to present a way of taking a step towards improving behaviour management teaching. It focuses

¹Secondary education refers to the educational level following primary education and preceding higher education, typically covering grades 7-12 in many countries.
on the improvement and upholding of preservice teachers' sense of self-efficacy regarding behaviour management. This action research takes place in Switzerland, in a vocational education system.

**Study context**

This study took place at the Teaching and Research Centre for Secondary Education (CERF), University of Fribourg, Switzerland. Preservice teachers have a 9-semester training program as well as a Master Thesis to write (270 European Credits all together), after which they obtain a Master of Arts in teaching and a Teaching Diploma for Swiss secondary schools. They go on different kinds of placements throughout nine semesters. These placements go from observing in-service teachers to taking on full responsibility of a class for several weeks. Some of the placements focus on specific aspects such as «difficult situations» (these vary from one preservice teacher to another as not all situations are seemingly difficult to all of them). An «out of classroom time» placement also exists during which preservice teachers learn how to accompany pupils on a field trip, sports day or any other activity linked to school, but taking place out of the classroom. During the last semester, they go on a placement during which they are supposed to begin the school year with their pupils and finish around mid-December. The special feature of this last placement is that it puts preservice teachers in a high-responsibility situation, meaning they have to manage all of the aspects of teaching, including behaviour management as well as some administrative tasks for the school in which they work. Approximately a third (this can vary from one year to another) of the preservice teachers are actually hired as all-year round teachers in the schools in which they are doing their placement. Each preservice teacher has a teacher trainer for each of the three (sometimes four) subjects they teach; there can also be one trainer for several subjects.

**Theoretical framing**

**Classroom management model**

According to Gaudreau’s (2017) model based on the work of Garrett (2014) and O’Neill and Stephenson (2011), classroom management has five dimensions: (1) resource management, (2) setting clear expectations, (3) developing positive relationships, (4) maintaining pupil commitment and attention to the task and (5) difficult behaviour management (Gaudreau et al., 2015). During teacher training, a lot of attention and practice is given to the first four dimensions of classroom management. In addition to this, preservice teachers can work on aspects such as body presence, communication skills and how to give meaning to learning as a way of preventing difficult behaviour. However, preservice
teachers are rarely confronted to real behaviour management problems during their training. This is because they are rarely alone with a class during their placements: their trainers accompany them most of the time. For these reasons, the last dimension of classroom management is thus more difficult to address directly during teacher education.

**Behaviour management model**

When it comes to behaviour management, one model that has often been cited over time is the Glickman and Tamashiro (1980) model, which classifies strategies as interventionist, non-interventionist or interactionalist. Unfortunately, the studies regarding this model have had inconsistent results (Ritter & Hancock, 2007), suggesting that teachers’ functioning cannot be categorized this way when it comes to behaviour management. This can be explained by the fact that situations, in which behaviour needs to be managed, do not result only from the teacher’s actions and choices. The model developed in the process of creating a self-efficacy scale specific to behaviour management admits that there isn’t one way to put a behaviour management system into place: it needs to be adapted to the teacher as well as to the pupils and to the context in which they evolve (Dessibourg, 2018; Sieber, 2000). This model highlights four phases of behaviour management as well as four dimensions based on the different models synthesized by Charles (2009) and a more recent model by Sieber (2000). The four phases refer to prevention, support, correction and remediation. The four dimensions refer to the types of management a teacher uses within these phases: proactive behaviour management, reactive behaviour management, proactive implication of parents, and reactive implication of external people (parents, mediators, psychologists or any other person functioning as a resource in behaviour management). Finally, this model takes the Glickman and Tamashiro’s (1980) strategies into consideration but uses them to qualify teachers’ approaches in a given circumstance, admitting that one teacher can go from one approach to another in a short time lapse.

Teaching and behaviour management have many «embedded layers and subskills» (Tomlinson, 1995, p. 29). This model may be used as a help to analyse certain practices in behaviour management. The above table is not an exhaustive list of teacher behaviour regarding classroom management, yet it is an example of how this model can be used to help preservice teachers and teachers consider their different actions.
Table 1: Examples of teacher actions classified according the behavior management model (Dessibourg, 2018)

| Action                                                                 | Phase       | Dimension     | Approach        |
|------------------------------------------------------------------------|-------------|---------------|-----------------|
| The teacher sets classroom rules with his or her pupils’ help.         | Prevention  | Proactive BM  | Interactionalist|
| The teacher informs parents of the classroom rules and their consequences. | Prevention  | Proactive parent implication | Interventionist |
| The teacher encourages a pupil who demonstrates good behavior.         | Support     | Reactive BM   | Interventionist |
| The teacher teaches pupils how to behave according to school rules and teacher expectations. | Support     | Proactive BM  | Interactionist |
| The teacher seeks to reorient a disruptive pupil’s attention on the task. | Correction  | Proactive BM  | Interactionist |
| The teacher looks at a disruptive pupil straight in the eye and stares at him or her for a few seconds. | Correction  | Reactive BM   | Interventionist |
| After applying a consequence to a pupil’s disruptive behavior in the class, the teacher recreates a healthy climate. | Remediation | Reactive BM   | Interventionist |
| The teacher has a discussion with a disruptive pupil in order to set new rules and their consequences together. These are different from the ones used for the rest of the class. | Remediation | Proactive BM  | Interventionist |

Teacher self-efficacy regarding behaviour management

Self-efficacy is a current feeling about the future: it defines what a person feels capable of doing in a particular situation that might arise (Bandura, 1977). It is the sense that an individual has to be able to perform a certain task without comparison with others (Woolfolk Hoy, 2004). A teacher’s sense of self-efficacy regarding behaviour management plays a central role in this field (Gaudreau et al., 2012).

Self-efficacy is a good behaviour predictor (Brown et al., 2015). Yet it is difficult, one could even say impossible, to say what comes first: self-efficacy or the behaviour linked to it. On one hand, self-efficacy beliefs function as causal factors by influencing one’s choice, effort and persistence (Pajares, 1996). More recent studies have also highlighted this aspect explaining that teachers with high self-efficacy beliefs are more inclined to stay motivated and to persevere in the face of difficulties (Gaudreau et al., 2012; Tschannen-Moran & McMaster, 2009). On the other hand, self-efficacy is considered to be very responsive to variations of one’s context or outcomes (Zimmerman, 2000). A good example of this is the way pupil disruptive behaviour and teacher emotional exhaustion have a negative effect on teachers’ perceived self-efficacy, as these aspects will
lead teachers to evaluate their performances as being poorly, thus reducing their self-efficacy beliefs (Brouwers & Tomic, 2000). Preservice teachers' self-efficacy beliefs are related in this way to stress, and satisfaction with support (Tschannen-Moran et al., 1998). When it comes to behaviour management, novice teachers' self-efficacy beliefs are influenced negatively by severe challenging pupil behaviours, even when they have had success managing mild challenging pupil behaviours; this can be explained by the fact that they focus mainly on the difficulties they encounter (Smart & Igo, 2010).

Different sources encouraging high self-efficacy beliefs exist. The most important one is mastering experiences accompanied by constructive feedback (Bandura, 2013). Verbal persuasion such as feedback and third party support appears to make a significant difference regarding levels of novice teachers' sense of self-efficacy (Tschannen-Moran & Woolfolk Hoy, 2007). Positive valuations and comments can induce change by encouraging preservice teachers to maintain a greater effort (Tschannen-Moran & McMaster, 2009). Mentoring preservice teachers during their placement is one way of providing such support. Finally, self-efficacy can be improved in a significant way during one's initial training; even when preservice teachers' self-efficacy levels are already high (Brown et al., 2015).

**Mentoring and giving feedback**

Some of the most favourable conditions for professional development are: training in a professional context, training that takes individual differences into account and training that stimulates reflection on one's learning and practices (Charlier et al., 2002). When it comes to teacher training, placements are often considered to be the most valuable aspect of programs as they allow preservice teachers to put theory into practice and provide new experiences; yet, it is also during these placements that they may experience strong emotions, tensions and challenges (Izadinia, 2016). Mentoring can play an important role in helping preservice teachers during these moments. As well as being a way of boosting self-efficacy, mentoring preservice teachers in contexts of higher teaching responsibility leads to a high satisfaction regarding autonomy and competence (König et al., 2016). When mentoring preservice teachers on different aspects of teaching, behaviour management in the classroom has often been pointed to as being one of the main topics of concern for preservice teachers. Scholars show it is only once they manage to control their classroom that they start focusing on learning content (Everston & Smityey, 2000, May-June; Furlong & Maynard, 1995).

Different definitions of the concept of mentor exist. In this study, the mentor's role was explained to the participants using Goodlad's (1998) distinction between a mentor and a tutor. A mentor is someone with social competences. The mentor is not in the classroom and he or she interacts with students one on one throughout several months or even years. A tutor, on the other hand, is someone who focuses on academic learning, who usually is in the classroom and
who interacts with one to several students at a time for a few weeks (Goodlad, 1998).

There are different ways for a mentor to give feedback. In this context, a hundred per cent of the feedback was given to preservice teachers in writing using an on-line thinking journal. Feedback strategies and content used in this study were based on Brookhart’s (2008) recommendations on how to give effective feedback. In order to bring a better understanding of this, a table based on a selection of Brookhart’s (2008, pp. 5-7) feedback strategies and content recommendations is presented. These were selected according to the thinking journal’s achievement goal: help preservice teachers enter a reflexive posture regarding their behaviour management. A column explaining how they were implemented in the thinking journal is added to the table.

**Table 2: Strategies based on Brookhart (2008, p.5)**

| Strategy | Recommendations | In the thinking journal |
|----------|-----------------|-------------------------|
| **Timing** | Delay feedback slightly for more comprehensive reviews of student thinking and processing. Never delay feedback beyond when it would make a difference to students. | Feedback was given within a week so that preservice teachers have time to process information but situations explained in the thinking journal still exist when the feedback is received. Preservice teachers were then able to act accordingly. |
| **Amount** | Prioritize – pick the most important points. Choose points that relate to major learning goals. | Major learning goals were highlighted and put forward with comments such as “Great!” or “Well done!” when the preservice teacher seemed to be mastering them. In cases where the preservice teacher seemed to be having problems or that concepts seemed to be either missing something or to be addressed in a superficial way, comments were formulated in such a way as to help the preservice teacher find a solution. This was done using questions such as: “Is it possible to…?”, “What would you think of…?”, “Can you imagine doing…?” |
| **Mode** | Interactive feedback (talking with the student) is best when possible. Use demonstration if “how to do something” is an issue or if the student needs an example. | Interactive on-line conversations were common in the thinking journal. Preservice teachers could either answer the mentor’s feedback in the comment section along the main text or include new information resulting from exchanges with the mentor directly in the main text. |
| **Audience** | Individual feedback says, “The teacher values my learning”. | The thinking journal was personal, allowing each preservice teacher to receive personalized feedback according to the different situations they encountered. |
### Table 3: Content based on Brookhart (2008, pp.6-7)

| Content  | Recommendations                                                                 | In the thinking journal                                                                 |
|----------|----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| Focus    | When possible, describe both the work and the process – and their relationship. Comment on the student’s self-regulation if the comment will foster self-efficacy. Avoid personal comments. | Concerning behavior management, it was common for preservice teachers to explain situations and the choices they made, followed by concerns and doubts about these choices. In these cases, the mentor chose to provide an analysis of the situation followed by suggestions formulated as questions. Personal comments were avoided at all costs. |
| Comparison | Use norm referenced feedback for giving information about student processes or effort. | Norm referenced feedback was always used as opposed to criterion-referenced feedback because the way a person manages behavior in a classroom is so personal. It is important for each preservice teacher to find a way of functioning that fits their tolerance's threshold as well as their teaching style. |
| Function | Describe. Don't judge. | Describing or reformulating parts of what preservice teachers said helped them take a step back from certain situations. Not judging preservice teachers was particularly important regarding behavior management as this skill is closely linked to one’s personality. Being judgmental would only cause a rift between the preservice teacher and the mentor. |
| Valence  | Use positive comments that describe what is well done. Accompany negative descriptions of the work with positive suggestions for improvement. | All comments were positive. Usually, when work needed improvement, preservice teachers were aware of it as their pupils reacted in a difficult way. This allowed the mentor to provide analyses and questions that would help preservice teachers make better decisions in the near future. |
| Clarity  | Use vocabulary and concepts the student will understand. | Because preservice teachers followed a classroom management course the year preceding the use of the thinking journal, it was possible to use vocabulary linked to specific concepts. A document explaining behavior management and the way its components are defined and considered was given to the preservice teachers at the same time as the instructions for the thinking journal. |
| Specificity | Tailor the degree of specificity to the student and the task. Make feedback specific enough so that students know what to do but not so specific that it's done for them. | Because feedback was about preservice teachers' actions in class and not about the actual written work, it allowed the mentor to provide support without risking to take over what the preservice teachers were supposed to do. |
| Tone     | Choose words that communicate respect for the student and the work. Choose words that position the student as the agent. Choose words that cause students to think and wonder. | Choosing the correct vocabulary was particularly important in this context as the feedback was written and preservice teachers may interpret sentences in a different way than what was intended by the mentor. Choosing an ambiguous word could have caused distress to preservice teachers who may have felt judged or disrespected when actually, this is not the case. |
Such feedback is considered an evidence-based practice that can be used to make sure behavioural interventions are implemented the intended way by preservice teachers (Fallon et al., 2015). Feedback is a «consequence of performance» (Hattie & Timperley, 2007, p. 81). Therefore, it started off being literature based explanations and questions to stimulate preservice teachers’ reflectiveness to experience-based suggestions and discussions of different possibilities confronted to individual situations. Thus, while feedback answered the previously fixed criteria, it was largely dependent upon context and was used in a way to diminish the theory-to-practice gap.

**Using an on-line thinking journal**

Using an on-line thinking journal as a way to mentor preservice teachers is a reflective task that has many qualities: first of all, using this form of work is recommended to reflect on information, to help identify problems and to monitor change over time (Kolencik & Hillwig, 2011). It also helps preservice teachers to put concepts into words and to make sense of complicated, multifaceted pieces of information; when they write about solving a problem, this improves the actual process of problem solving; it is a good way to access emotional memories which may be shared differently than if they were spoken (Kolencik & Hillwig, 2011). Novice teachers base their behaviour management strategies mainly on previous experiences like the help or the observation of their in-field teacher trainer or trying out something new based on intuition; the thinking journal can be a good way to help them solve problems by suggesting articles, models or tools that have been tested and that follow a specific strategy (Smart & Igo, 2010). These aspects are particularly important regarding behaviour management as some preservice teachers do encounter difficult situations which sometimes lead them to difficult emotional states.

The on-line version was privileged for practical reasons: preservice teachers in their last semester of training follow lessons at university as well as teach in one or two different secondary schools. Something easily accessible from home, school or university was needed. It was also necessary for the mentor to be able to access what preservice teachers wrote in a short time lapse. This way of functioning is more efficient in terms of time and staff: it can be an interesting way to provide preservice teachers with feedback in contexts with limited resources (Fallon et al., 2015).

Recently, teacher educators working in a similar context put forward three ways preservice teachers may write in the thinking journal: while some preservice teachers simply explain the situations they encounter without going into the analysis of situations, others enter a real meta-reflexive posture. The third category of preservice teachers was said to develop dialogues with the mentor in the comment section, in parallel to the thinking journal (Carron & Spicher, 2014). In the present study, we started from these observations to classify preservice teachers’ writings. However, after going through all the thinking journals, five categories were defined rather than three. We decided not to differentiate the dialogues in the comment section from feedback that was cited and taken into account in the main text.
Table 4: 5 types of feedback based on the mentor’s intentions

| Type | Definition | Examples taken from the thinking journals (Freely translated from French) |
|------|------------|--------------------------------------------------------------------------|
| A    | The mentor provides the student with support concerning his or her choices. The mentor acquiesces, validates or highlights what is said by making positive comments and by sometimes giving other examples to this effect. | “This reflection is very relevant.” “Great to have thought about it before. This probably saved you some time and allowed you to act in a more confident way.” “That’s right! We can sometimes be surprised by some of the situations we encounter.” |
| B    | The mentor asks questions to elicit more reflexivity from the student. It is preferable for questions to be open ones as this leaves space for development. | “Yes, this usually works well. Do you know why?” “You don’t know which system is right for you yet, but have you thought about your different tolerance levels? (eg: noise)” |
| C    | The mentor gives advice or examples emerging from his or her own reflection following the analysis of a situation encountered by the student. This type of feedback is often given when a student is experiencing difficulties or doesn’t know what to do when faced with a certain situation. | “As you explain the situation, I feel that your pupils know that their behavior is not good because they stop when you stop teaching and come to the front of the class. On the other hand, you are right, you can’t keep interrupting the class to do this because you lose too much teaching time. Retaining the pupils at the end of the course as you suggest is not the ideal solution either because as you say, they are still grouped. Not only is it unfair to those who have not done anything, but the group effect persists. Why not try starting the next class with an explanation of what you expect from them? After what… [...]” |
| D    | The mentor gives additional information taken from literature, a regulation or a law (this may be the sharing of a document) related to a situation. In order not to weigh down the written exchange, the source is only quoted if it is useful for the student. | “I find pages 78-91 particularly interesting: they make it possible to apprehend and understand the specificities of each type of difficult pupil and help us imagine different interventions according to the existing profiles.” (About a book suggested by the in field teacher trainer: Richoz, 2009) “I recently found an interesting text about non-verbal language that highlights some of the differences between experienced teachers and beginners. Apparently, this impacts authority.” (About Moulin, 2004). Why not use the skills repository to help you observe this? This could help you focus on what skills the teacher needs to develop for the proper functioning of behavior management. (CERF, 2018) |
| E    | The mentor provides psychological support to the student as a result of a distressing situation. This can range from managing a very difficult class to difficult relationships with the teacher trainer. | “I understand the difficulty of your situation. I really encourage you to strive and not be discouraged. A misplaced comment does not define who you are as a teacher.” “Let’s try to draw the positive from this bad experience: maybe in a few years you will agree to be a teacher trainer. I’m sure this experience has taught you a lot about caring for your learners (children or adults) and the effect you can have on them with a few simple words.” |
Behaviour management being a difficult challenge and teacher self-efficacy beliefs being so strongly influenced by difficult behaviour, one is left to wonder if a thinking journal combined to a high responsibility placement can really meet the set expectations. In order to take one step closer to understanding such a vast and complex subject, the present study focuses on two aspects, self-efficacy beliefs regarding behaviour management and perceived thinking journal utility, with the following questions:

**Research questions**

**Q1** - Do self-efficacy beliefs regarding behaviour management change in a statistically significant way during the use of an on-line logbook combined to an in-field placement?

**Q2** - Do preservice teachers perceive the thinking journal as being useful?

**Method**

To implement the use of the thinking journal combined to a high responsibility placement and bring some first elements of existence proof (Borko, 2004) and of its positive impact, a longitudinal investigation was used. To provide data towards a better understanding of the effects that on-line mentoring can have during placements on preservice teachers’ behaviour management self-efficacy beliefs, two type of actors were considered: the preservice teachers and their in-field teacher trainers. This study is an action research, meaning it can be considered as a practice-changing practice, combining theoretical concepts with changes in the social system through the actions of the researcher, in order to become more efficient (Kemmis, 2009).

**Participants**

47 preservice teachers aged 23 to 37 (M=26.85, SD=3.50); including 33 women and 14 men participated in this study. These preservice teachers were chosen because they were completing their last semester of middle school teacher training. The entire group of preservice teachers in their last year of training participated in the study. 45 teacher trainers of 30 preservice teachers answered the surveys that were e-mailed to them.

**Measures**

The research was carried out using an on-line administration of a self-efficacy scale: *Secondary School Classroom Behaviour Management Scale* (Dessibourg, 2018). Besides, information related to preservice teachers’ age, sex, placement perceived difficulty and perceived usefulness of the thinking journal was collected.
Preservice teachers' sense of self-efficacy

The Secondary School Classroom Behaviour Management Self-efficacy Scale (Dessibourg, 2018) was elaborated for the purpose of this study and is directly related to the context. It is a 10-point Likert-type scale with a «Highly certain I can do/I cannot do at all» response format. The survey consists of 16 items, divided into 4 dimensions: (1) proactive behaviour management (6 items), (2) reactive behaviour management (5 items), (3) proactive implication of parents (2 items), and (4) reactive implication of external people such as parents, mediators, psychologists or any other person functioning as a resource in behaviour management (3 items). Examples of items are: (1) to interact with my pupils in a way that neither they or I feel disadvantaged as a result of a problematic situation; (2) to intervene at the first signs of indiscretion; (3) to include all parents, including the least cooperative ones, in the solving of discipline problems; (4) to collaborate with people outside the class (psychologist, mediator, principal, ...) to solve a problem of misconduct. For these dimensions, Dessibourg (2018) found Cronbach's Alphas of 0.81, 0.78, 0.73 and 0.82 respectively. The global scale reliability coefficient was of .89. Whether this scale should be considered as having one dimension or four is debatable. Some questions remain: while previous results suggest it should be considered as unidimensional (Dessibourg, 2018), Bandura (2006) explains that if different types of activity depend on similar sub-skills, there may be some interdomain relation in perceived efficacy. In this study, we have decided to observe the fluctuations of all four dimensions.

Preservice teacher efficacy perceived by their in-field trainers

An adapted version of the Secondary School Classroom Behaviour Management Self-efficacy Scale (Dessibourg, 2018) was used to evaluate the trainers' perception of their trainees' efficacy. Items were formulated using the third person rather than the first. The 10-point Likert-type scale included all 16 items with a «Highly certain he or she can do/He or she cannot do at all» response format.

Placement perceived difficulty

Preservice teachers were asked if they perceived the situations encountered during their placements as being difficult using a 10-point Likert-type single question with an «Easy/Difficult» response format. The subjects answered subjectively, only taking their personal feelings into account.

Perceived usefulness of the thinking journal

Preservice teachers were asked if they perceived the thinking journal as being useful using a 4-point Likert-type single question with a «Not useful/Very useful» response format. The subjects answered subjectively, only taking their personal feelings into account.
Procedures and data collection

The study was carried out during the 2017 first semester. First of all, the thinking journal was presented and implemented by the researcher who was also the mentor in this context. Then, five time points of assessment were conducted to monitor the evolution of preservice teachers’ self-efficacy beliefs. The last time point of assessment included questions aiming to evaluate the difficulty of preservice teachers’ placements and the utility of the thinking journal. Their in-field trainers were also questioned on how they perceived their trainee’s efficacy.

Thinking journal implementation

So that preservice teachers could have their thinking journals ready to use on the first day of school, it was presented to them and to their teacher trainers, at the end of the school year (June 2017) preceding the placement during which preservice teachers would take on high responsibilities in a class, from the first day of school in August 2017 to December 2017.

Information was given to them in six steps: (1) Difficulties encountered by preservice teachers put forward in studies were presented and the study in which they were invited to be participants was explained to some extent. (2) The thinking journal was presented. It was introduced as being a training tool, a written recollection of their placement and a meta-reflexive text. (3) The mentor’s role was then explained using Goodlad’s (1998) distinction between a mentor and a tutor. Five aspects of the mentor’s role were put forward. Preservice teachers were told that the mentor would accompany them and help them develop a personal behaviour management system; guide them by helping them take a step back from situations in order to analyse them; moderate and nuance their different perceptions by assisting them with the evaluation and self-evaluation of their practices; support them by providing useful resources, encouragements and by helping them enter a reflexive posture. (4) The organisation including the presentation of the online tool (a shared GoogleDrive file) and the time plan was presented. (5) The role of the in-field teacher trainer was specified. In this case, the trainer was asked to not take part in the thinking journal. This was so preservice teachers could write freely, without being afraid that anything they wrote might influence the evaluation of their placement. (6) Time was given to preservice teachers and their trainers to ask questions.

Preservice teachers were asked to write in their thinking journals at least twice a month, except for during the months of August and December for which they could write only one entry if they wished to, as those months were shorter school months.
The mentor
In this action research, there was one mentor, the researcher, for 47 preservice
teachers. She was a part time secondary school teacher with over five years of
experience and a part time university teacher educator. She did not have any in-field
contact with the preservice teachers or their teacher trainers during the use of the
thinking journal. The mentor’s role was to provide benevolent feedback formulated
in a way as to stimulate reflection, either by questions or by highlighting
key passages from the thinking journal; every time a preservice teacher wrote
something down in it. The content of the mentoring was not submitted to any
kind of punitive or administrative ramifications. None of the situations encountered
by preservice teachers were ever discussed orally. Feedback was given to
the preservice teachers in a short delay as this fosters higher self-efficacy beliefs
(Brookhart, 2008) and provides more opportunities to experience new instructional
techniques accompanied by feedback (Graves Kretlow & Bartholomeuw,
2010, August). Behaviour management strategies were based on the recommenda-
tions of different sources: Sieber (2000) presents different existing models
for managing behaviour as well as an explanation of behavioural disorders in
children, how to recognize them and manage them according to specific needs.
This was an interesting source to help preservice teachers confronted to cases in
which specific pupils were particularly disruptive. Gaudreau (2017) presents a
classroom management model, including behaviour management recommendations.
This source was used a lot for preservice teachers facing general difficulties
regarding the class as a group. Preservice teachers also suggested other sources
like references taken from a previous classroom management course or readings
suggested by their teacher trainers.

Five time points of assessment
Before anything was presented to the preservice teachers, their self-efficacy beliefs
regarding behaviour management were tested twice in a one-month interval
(T1=May 2017 and T2=June 2017), using an on-line version of The Secondary
School Classroom Behaviour Management Self-efficacy Scale, during a time when
they were not supposed to be doing anything linked to behaviour management.

During the first semester of the 2017-2018 school year, three on-line questionnaires
were sent to the preservice teachers. T3=August, when school started; T4=October, half-way through the semester; T5=December, when most of the preservice teachers finished their placements. The questionnaires
sent to preservice teachers at time points T3 and T4 were an on-line version of
The Secondary School Classroom Behaviour Management Self-efficacy Scale. The
questionnaire sent to them at time point T5 was the same on-line self-efficacy
scale to which additional questions were added regarding thinking journal utility
and their perceived difficulty of their placement situations. It was also at time
point T5 that preservice teacher efficacy perceived by their trainers was evaluated
using an on-line questionnaire.
Data Analysis

Statistical analysis was conducted using SPSS software (version 25). To understand variable distribution, the mean, the standard deviation, skewness and kurtosis tests were calculated.

Repeated measures t-test
T1 and T2: global self-efficacy beliefs were measured and compared using a repeated measures t-test, to make sure there was no statistically significant change in self-efficacy beliefs regarding behaviour management when they were not submitted to any influence. To do so, the following null hypothesis was tested: there is no significant change in preservice teachers’ self-efficacy scores when they are not submitted to any known influence. There was a one-month time lapse between T1 and T2.

One-way repeated measure ANOVA
T3, T4 and T5: teacher self-efficacy beliefs were analysed using descriptive statistics. After what, a one-way repeated measure ANOVA that is useful for determining if a significant difference exists across three sets of scores was conducted. The following hypothesis was tested: there is a significant change in preservice teachers’ self-efficacy scores before, during and after using the thinking journal while on a high responsibility placement. The independent variable is time: T3 (before using the thinking journal), T4 (during the use of the thinking journal) and T5 (after the use of the thinking journal). The dependent variable is teacher self-efficacy regarding behaviour management. This test was repeated for all four dimensions of teacher self-efficacy regarding behaviour management.

Pearson correlation matrix and descriptive statistics
Descriptive statistics were used to give information regarding perceived usefulness of the thinking journal. Pearson's correlations were used to investigate links between perceived usefulness, global self-efficacy beliefs and other characteristics.

Results

Self-efficacy beliefs
There was not a significant difference in the scores for T1 global self-efficacy beliefs (M=6.97, SD=1.08) and T2 global self-efficacy beliefs (M=6.92, SD=.96) conditions; \(t(-.38)=-0.38, p=.708\). The null hypothesis can be accepted, meaning that self-efficacy beliefs do not change in a significant way when they are not subjected to any influence.
Table 5: Descriptive statistics and variable distribution

| SEB   | n = 33 | α   | Min. | Max. | M   | SD  | Skewness (SE) | Kurtosis (SE) |
|-------|--------|-----|------|------|-----|-----|---------------|---------------|
| GLOB  | T3     | .90 | 4.56 | 9.25 | 6.90| 1.02| -0.08 (0.41)  | 0.03 (0.80)   |
|       | T4     | .92 | 5.56 | 9.63 | 7.20| 1.14| 0.26 (0.41)   | -1.15 (0.80)  |
|       | T5     | .92 | 6.19 | 9.56 | 7.71| 0.93| 0.06 (0.41)   | -1.08 (0.80)  |
| PRO*  | T3     | .70 | 5.00 | 8.83 | 6.77| 0.91| 0.29 (0.41)   | -0.16 (0.80)  |
|       | T4     | .85 | 5.00 | 9.83 | 7.39| 1.13| 0.15 (0.41)   | -0.49 (0.80)  |
|       | T5     | .82 | 6.33 | 9.83 | 7.75| 0.90| 0.36 (0.41)   | -0.50 (0.80)  |
| REA*  | T3     | .88 | 4.20 | 9.80 | 7.66| 1.20| -0.75 (0.41)  | .98 (0.80)    |
|       | T4     | .88 | 5.60 | 9.80 | 7.82| 1.23| -0.27 (0.41)  | -0.99 (0.80)  |
|       | T5     | .85 | 6.20 | 9.60 | 8.19| 0.96| -0.25 (0.41)  | -1.02 (0.80)  |
| PRO   | T3     | .70 | 2.50 | 9.00 | 5.62| 1.57| -0.17 (0.41)  | -.60 (0.80)   |
| IMPL* | T4     | .70 | 1.00 | 9.00 | 5.79| 1.84| -0.31 (0.41)  | -1.4 (0.80)   |
|       | T5     | .76 | 4.00 | 10.00| 6.77| 1.55| 0.19 (0.41)   | -0.69 (0.80)  |
| REA   | T3     | .87 | 4.67 | 9.67 | 7.37| 1.52| -0.35 (0.41)  | -1.08 (0.80)  |
| IMPL* | T4     | .86 | 3.33 | 9.67 | 6.72| 1.73| 0.98 (0.41)   | -.95 (0.80)   |
|       | T5     | .84 | 5.00 | 9.67 | 7.43| 1.36| -0.23 (0.41)  | -.87 (0.80)   |

*PRO: proactive behavior management; REA: reactive behavior management; PRO IMPL: proactive implication of parents; REA IMPL: reactive implication of external people

Skewness and Kurtosis are within two standard errors except for reactive implication of external people at one time point (T4), which suggest that the data is likely to be relatively normally distributed. Considering this and the fact that our sample size is >30, we can proceed with parametric tests (Miricioiu & Atkinson, 2017; Hoskin, 2012).

A one-way repeated measured analysis of variance (ANOVA) was conducted to evaluate the hypothesis that there is a change in preservice teachers’ global self-efficacy beliefs regarding behaviour management when measured before, during and after the use of the thinking journal (N=33). The results of the ANOVA indicated a significant time effect. Wilks’ Lambda=.36, F(2, 31)=27.61, p<.01, η2=.75. Thus, there is significant evidence to accept the hypothesis.

The same test was repeated for the four different dimensions of teacher self-efficacy regarding behaviour management. The hypothesis can be accepted for the following dimensions: proactive behaviour management, reactive behaviour management and proactive parent implication. The change observed regarding the last dimension: implication of external people was not significant.
Table 6: Results of the one-way repeated measure ANOVA for the four dimensions of teacher self-efficacy beliefs regarding behavior management

| SEB   | Wilk's Lambda | F     | p   | η2 | Significance of pairwise differences |
|-------|---------------|-------|-----|----|--------------------------------------|
|       |               |       |     |    | T3-T4 | T4-T5 | T3-T5 |
| GLOB  | .36           | 27.61 | .00** | .75 | .08   | .00** | .00** |
| PRO   | .35           | 29.41 | .00** | .66 | .00** | .04*  | .00** |
| REA   | .59           | 10.85 | .00** | .41 | .23   | .01*  | .00** |
| PRO IMPL | .54   | 13.49 | .00** | .47 | .63   | .00** | .00** |
| REA IMPL | .79   | 4.08  | .03  | .21 | .03*  | .76   | .01*  |

*p < .05  **p < .01

Follow up comparisons indicated that pairwise differences were significant. There was a significant increase in scores over time, suggesting that using the thinking journal during a high responsibility placement increased preservice teachers’ level of global self-efficacy beliefs regarding behaviour management. The same comparison was repeated for the four different dimensions of teacher self-efficacy regarding behaviour management.

Figure 1: Estimated marginal means of self-efficacy beliefs over time
Thinking journal usefulness

Table 7: Descriptive and variable distribution

|                          | n  | M   | SD  | Skewness (SE) | Kurtosis (SE) |
|--------------------------|----|-----|-----|---------------|---------------|
| Perceived utility        | 31 | 2.53| 0.85| -0.28 (0.42)  | -0.35 (0.82)  |
| Perceived difficulty     | 33 | 5.05| 2.20| 0.34 (0.41)   | -1.02 (0.80)  |

Statistics show that a majority of students found the thinking journal useful. Skewness and Kurtosis are within two standard errors, which suggest that the data is likely to be relatively normally distributed (Hoskin, 2012; Mircioiu & Atkinson, 2017).

Table 8: Pearson correlations

|                          | Perceived utility | Perceived difficulty | Number of pupils | Age | Perceived eff. by trainer | GLOB SEB |
|--------------------------|-------------------|----------------------|------------------|-----|---------------------------|----------|
| Perceived utility        | $r = 1$           | $r = .51^{**}$       | $r = -.20$       | $r = -.22$ | $r = -.13$              | $r = -.09$ |
| GLOB SEB                 | $r = -.09$        | $r = .14$            | $r = -.14$       | $r = -.16$ | $r = -.09$              | $r = 1$   |

$^{**}p<.01$

Various links were explored using Pearson’s correlations in order to find out where the differences are between preservice teachers who found the thinking journal useful and those who did not. Person-specific factors like age and global self-efficacy beliefs regarding behaviour management were not significantly linked to perceived usefulness of the thinking journal. Concerning context-specific factors, we noticed that the number of pupils preservice teachers have in their classroom is not significantly linked to perceived utility. However, there is a significant link between the level of perceived difficulty of the placement and the perceived usefulness of the thinking journal.

Discussion

First of all, the one-way repeated measure ANOVA indicated a significant time effect regarding preservice teachers’ self-efficacy beliefs. These results lead us to believe that such a way of working towards mastering behaviour management can strongly benefit students with a lower self-efficacy perception and encourage others to maintain their positive perception. We note a similar evolution for global self-efficacy beliefs and three of its four dimensions: (1) proactive behaviour management, (2) reactive behaviour management and (3) proactive
implication of parents. However, the evolution of the last dimension, (4) reactive implication of external people (parents, mediators, psychologists or any other person functioning as a resource in behaviour management) is very different and non-significant. This is interesting because none of the preservice teachers were in a situation in which they had to organize this type of external help. Not only was this aspect not practiced, it was not addressed in the thinking journal either, explaining why the evolution of this dimension overtime differs from the others.

Pearson's correlations allowed us to conclude that the personal aspects explored in this study are not significantly linked to the way preservice teachers perceived the usefulness of the thinking journal. It was very surprising to see that the correlation between preservice teachers’ self-efficacy beliefs and their trainers’ perception of their efficacy is almost inexistent and negative. This divergence in perception indicates that teacher trainers may not always be aware of the difficulties encountered by their trainees. It could be explained by the fact that teacher trainers are often not in the classroom with the preservice teachers during high responsibility placements. It is likely that pupils act differently when the teacher trainer visits the class to check on the preservice teacher and the pupils, thus influencing the teacher trainer’s perception. However, we found that preservice teachers who perceived their placements as being more difficult found the thinking journal more useful than others. This highlights the supportive aspect of this training device. Finally, it leads us to believe that as teacher educators, we cannot predict whom this device will benefit the most before situations linked to behaviour management occur.

One of the study's limitations is that preservice teachers sometimes skipped answering a questionnaire, thus making other answers unusable for some of the analyses that were conducted. For further research, it would be interesting to enter phase two of Borko’s (2004) organisation of research programs, meaning this device should be used by more than one mentor at more than one site, thus opening possibilities to deepening the exploration of relationships among mentors, the preservice teachers, the teacher trainers and the professional program in which they evolve (Borko, 2004). If this research were to be reproduced, it would be necessary to define the concepts of the logbook perceived utility and the placement perceived difficulty, thus bringing a better understanding of the different aspects of each of these concepts. For example, concerning the utility of the logbook, it would be interesting to differentiate aspects concerning practical aspects of the tool from the ones regarding its content, such as feedbacks. It would also be advisable to use a larger Likert scale, allowing a better tool sensitivity. When it comes to perceived difficulty, one can wonder whether it has to do with the context, the pupils or even the teacher trainer.

Another limitation is that it would have been interesting to have three time points of assessment for the teacher trainers as well. This would have enabled us to have a better view of the evolution of the trainers’ perception regarding their trainees. For further research, the differences between the way preservice teachers
perceive their self-efficacy and how they are perceived by their trainers should be investigated, as surely a divergence as important as the one observed in our context must impact preservice teachers’ education.

Conclusion

As empirical tests were conducted and indicate support for the theorized concepts and relationships, a thinking journal as a training device can be considered for implementation although it has to be adapted to the different contexts in which it may be used. Based on our results, we can also conclude that using a thinking journal while going on a high responsibility placement is an efficient way of raising and upholding preservice teachers’ self-efficacy beliefs regarding behaviour management. It also proves to be a useful way of providing support in difficult situations.

Notes

1 The term “secondary” in this study refers to the 9th, 10th and 11th grades of the Swiss French-speaking school system. Pupils are aged between 12 and 16 years old. These are the last three years of compulsory schooling.

2 Centre d’enseignement et de recherche pour la formation à l’enseignement au secondaire

3 The term “teacher trainer” refers to an in-service secondary school teacher qualified to train preservice teachers in their classroom, whereas a “teacher educator” on the other hand, refers to a university teacher.

4 The title, items and all elements referring to the questionnaire were freely translated from French for a better comprehension.

5 Pour des raisons de commodité de lecture, nous avons renoncé à féminiser les catégories de personnes et de fonctions. Nous remercions nos lectrices et nos lecteurs de leur compréhension.

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**Keywords**: Self-efficacy beliefs, behaviour management, mentoring, feedback, teacher education
Lehrpersonen in der Ausbildung: Wirkungen eines Lern­tagebuchs auf Selbstwirksamkeitsüberzeugungen über das eigene Verhaltensmanagement

Zusammenfassung
Wie kann die Ausbildung das Verhaltensmanagement der Studierenden verbessern? Die vorliegende Studie unternimmt einen Schritt zur Beantwortung dieser Frage. Untersucht wurde der Gebrauch eines Lern­tagebuchs bei 47 Studierenden während sie ein Praktikum absolvierten, in welchem sie selbst unterrichteten. Mittels einer Längsschnittstudie wurde geprüft, ob der Gebrauch eines solchen Instruments sich positiv auf die Selbstwirksamkeitsüberzeugungen der Studierenden auswirkt. Eine ANOVA mit Messwiederholung zeigte signifikante Unterschiede in den Selbstwirksamkeitsüberzeugungen bezüglich des eigenen Verhaltensmanagements über drei Messzeitpunkte. Der Nutzen des Lern­tagebuchs wurde ebenfalls untersucht. Die Resultate weisen auf die unterstützende Wirkung dieses Instruments in schwierigen Unterrichtssituationen hin, und wenn divergierende Sichtweisen zwischen den Studierenden und den Praktikumsbetreuern vorlagen. Die Studie wurde in der Schweiz während des letzten Semesters der Ausbildung der Studierenden durchgeführt.

Schlagworte: Selbstwirksamkeitsüberzeugungen, Verhaltensmanagement, Mentoring, Feedback, Lehrkräfteausbildung

Enseignant·e·s en formation: Effets de l’utilisation d’un carnet de bord sur le sentiment d’efficacité personnelle en gestion des comportements

Résumé
Comment améliorer la formation à la gestion des comportements ? Nous faisons un pas en direction de la réponse à cette question en présentant l’utilisation d’un carnet de bord en ligne lors d’un stage en responsabilité de 47 enseignant·e·s en formation. Une enquête longitudinale a été effectuée pour apporter des preuves empiriques que l’utilisation d’un tel dispositif a un impact positif sur leur sentiment d’efficacité personnelle. Une ANOVA à mesures répétées a été réalisée et a permis de déterminer une différence significative dans le sentiment d’efficacité personnelle concernant la gestion des comportements à trois moments différents. L’utilité du carnet de bord a également été évaluée. Les résultats mettent en évidence l’aspect positif de ce dispositif face à des situations d’enseignement difficiles, ainsi que les divergences importantes entre les perceptions des enseignant·e·s en formation et celles de leurs formateur·rice·s. L’étude a lieu en Suisse, au cours du dernier semestre de formation.
Insegnanti in formazione: effetti dell’uso di un diario di bordo sul senso di efficacia personale nella gestione dei comportamenti

Riassunto
Come migliorare la formazione degli insegnanti nella gestione dei comportamenti? Questo studio intende contribuire a trovare risposta a questa domanda proponendo l’uso di un diario di bordo durante i periodi di pratica ad alta responsabilità di 47 insegnanti in formazione. A tal proposito è stata condotta un’indagine longitudinale per verificare empiricamente come l’uso di un tale dispositivo abbia un impatto positivo sul senso di efficacia personale degli insegnanti. Applicando un’ANOVA a misure ripetute, è stata innanzitutto individuata una differenza significativa nel senso di efficacia personale in relazione alla gestione dei comportamenti nei tre momenti di rilevazione. È stata successivamente investigata l’utilità del diario di bordo. I risultati evidenziano l’effetto positivo di questo dispositivo in situazioni d’insegnamento difficili, nonché in caso di divergenze importanti tra la percezione degli insegnanti titolari e quella dei loro formatori. L’indagine si è svolta in Svizzera durante l’ultimo semestre di formazione degli insegnanti.

Parole chiave: Senso di efficacia personale, gestione dei comportamenti, tutoraggio, feedback, formazione degli insegnanti

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