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**TEACHER EDUCATION & DEVELOPMENT | RESEARCH ARTICLE**

# Reflective journals as a research tool: The case of student teachers' development of teamwork

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**Abstract:** The study explores the development of teamwork among a group of Israeli student teachers enrolled in a practicum, in order to help teacher educators to understand better the processes student teachers experience in becoming a collaborative team. The student teachers' reflective journals provide qualitative evidence of the stages in the development of teamwork among the student teachers themselves as well as with members of the school staff. A combined model of team performance from the business world and the Punctuated-Equilibrium Model was used as the theoretical framework for describing the stages of teamwork the student teachers experienced and for analyzing pedagogical insights into the process. The reflective entries provided an opportunity for the researchers to explore the complexity of teamwork, identify the stages of its development, and analyze its significance for teacher education. The researchers recommend testing the combined Drexler's model on other groups, such as the teaching staff and student teachers in high schools, as well as looking for other models that might explain the development of teamwork.

**Subjects:** Teacher Education & Training; Practicum-Internship-Supervision; Teachers & Teacher Education

**Keywords:** reflective journals; teacher education; teamwork; practicum

## ABOUT THE AUTHORS

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## PUBLIC INTEREST STATEMENT

Teamwork is an important and vital tool for teachers. Without the appropriate training, teachers can find it difficult to do effective teamwork. This article presents a study of the development of effective teamwork among student teachers enrolled in a teacher education college, as part of their practicum. The student teachers received training in effective teamwork, while doing their practice teaching in an Israeli elementary school for a year. This qualitative study used the reflective journals written by the student teachers and their pedagogical instructor during the process, to explore the various difficulties the student teachers faced when working as a group and with the school staff. Results of their experiences were analyzed according to two models of teamwork from the business world. The study found that effective teamwork was eventually achieved through the training program and with help from the pedagogical advisor.

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## 1. Introduction

Allen and Wright (2014) have described the major research on the practicum of student teachers, examined its purpose and duration, and analyzed the tasks assigned. However, few studies have investigated the significance that student teachers attribute to their professional development in the practicum framework. According to Anderson and Stillman (2013), hardly any studies have focused on what and how student teachers learn during the practicum, especially about working as part of a team. The present study addresses the process of teamwork that developed among student teachers in the practicum framework, as described in their reflective journals. The study uses the reflective journals of the student teachers as the primary means of recording their varied experiences in the school setting and describing the challenges they faced in their training as future teachers.

## 2. Review of the literature

### 2.1. Reflective journals in teacher education

Journals written by participants or researchers in practical settings constitute a source of narrative research (Connelly & Clandinin, 1990). Reflective journals comprise an important part of documenting the practice of different professions, such as nursing, and in fields such as musical education, business administration, psychology, and education. The advantages of the use of reflective journals in teacher education include strengthening the relationship between the instructor and the trainee, and improving the learning of student teachers and instructors as well as improving the learning processes (Moon, 2006; O'Connell & Dyment, 2011).

The use of reflective journals provides an opportunity for instructors to hear the voice of student teachers through the chance given to them to express the thoughts and changes they experience as a part of their learning experience (Dunlap, 2006). Davis (2003) examined 25 pre-service teacher's reflective journals in order to learn what insights university instructors gained into the thought processes of pre-service teachers. Phelps (2005) maintains that the journals not only are an important means for the collection of data in qualitative research about the student teachers but also enable "us"—teacher educators who research their work—to learn about ourselves. In her opinion, the data of the journals provide significant insights not always achieved through other ways of data collection.

Writing in a personal reflective journal may be valuable to student teachers for developing meta-cognitive abilities and for promoting their self-orientation and responsibility for the processes of their personal and collaborative learning. Through reflection, students become aware of their thoughts, positions, and feelings in relation to learning and to the learning community (Farabaugh, 2007). Dyment and O'Connell (2011) add another advantage: In their opinion, journals serve as an instrument for the improvement of learning by creating a connection between theory and practice.

Journals are a multidimensional instrument that can exist in a variety of forms (Boud, 2001). According to Anderson (2012), the use of journals serves as a pedagogical instrument for the encouragement of reflection, criticism, and self-analysis of students. Reflective journals constitute the point of departure for the writer's experience and a way to return to it through the student teacher's personal reflections, and in the context of his reflections about his relationships with others (Bagnato, Dimonte, & Garrino, 2013). In her review of literature, Lindroth (2015) states that despite the questions she raises about the use of reflective journals, they continue to be an important tool in teacher education and recommends that their contribution should be further investigated. Lee (2008) suggests that journals are a useful instructional tool for teacher educators to hear their student's personal voice.

## 3. Teamwork and collaboration in teacher education

Teamwork is a process fraught with difficulties in a variety of areas: communicating with group members, building a relationship of trust, acknowledging members of the group who do not

contribute to it, and so on (Whatley, 2009). Studies have found that difficulties exist in teamwork among student teachers in academic programs (Lehtinen, Hakkarainen, Lipponen, Rahikainen, & Muukkonen, 1999; Ruël & Bastiaans, 2003). The existence of these difficulties does not detract from the importance of integrating projects that require teamwork into the curricula of student teachers in colleges, since these projects enable students to combine their academic studies with an opportunity to develop abilities for teamwork (Whatley, 2009). However, Whatley (2009) notes that there is evidence of student teacher teamwork projects with disappointing results. Therefore, researchers recommend that student teacher teamwork occurs in an environment that enables them to learn about the nature of teamwork while receiving instruction (Dunne & Rawlins, 2000). In addition, it is necessary to set clear rules and norms that will define the desired system of relationships in the group and expectations of the group work (Patterson, Carron, & Loughead, 2005). Other researchers note that models illustrating ways of collaboration and teamwork should be integrated into teacher education programs, to equip teachers with the ability to work as a team (Villa, Thousand, & Chapple, 2000; Xu, Gelfer, & Filler, 2003). According to Voogt, Pieters, and Handelzalts (2016) little is known about the complexity of the task design that teacher teams can and should handle. However, their assertion indicates that previous experience of teachers in teamwork improves their functioning in school teams operating in this type of format. Sparks (2013) claims, "Schools rise and fall based on the quality of team work that occurs within their wall …" (p. 28). For there to be teamwork among teachers, educators indicate that it is important to allow student teachers to collaborate, to experience, and to learn about making shared decisions, communicating, and shared planning (Cook & Friend, 1995; Koeppen, Huey, & Connor, 2000; Villa, Thousand, Nevin, & Malgeri, 1996). Grangeat and Gray (2008) maintain that there is an insufficient number of studies on models of teacher education, in which groups of student teachers participate in a group, acting as peers. Teamwork has been conceptualized within several theoretical models of the development, and success of teamwork in organizations already exists (Drexler, Sibbet, & Forrester,2009; Edmondson, 2002; Gersick, 1988, 1989; Tuckman, 1965; West, 2002). Drexler's teamwork model (2009) includes "seven stages and focuses on seven primary issues that teams have to come to grips with as they move through the formative stages of team development to high performance and beyond." The seven stages of teamwork described in the model are as follows: orientation, trust building, goal clarification, commitment, implementation, high performance, and renewal. For each stage of team performance, the model contains a "resolved stage" and an "unresolved stage." The former term implies that the stage has been mastered by the team. An "unresolved stage" implies that the team has not successfully worked out the issues involved. The developers of the model claim that the stages are not necessarily in chronological order. Each stage builds on prior ones in an inclusive way, so a team that handles earlier stages well is better prepared to resolve later issues (Drexler et al., 2009).

The Punctuated-Equilibrium Model (PEM) (Gersick, 1988, 1989) has three different stages that describe the groups' changes as "Phase 1—transition—Phase 2" across time.

The transition, often called the midpoint of their task according to the PEM, is the start of a major change in the progress of group development. Following this shift in approach, the groups again settle into another productive phase of working together, followed by a sudden increase in energy to complete their task.

McEwan, Ruissen, Eys, Zumbo, and Beauchamp (2017) suggest that the training for teamwork should incorporate experiential activities that provide participants with more active ways of learning and practicing teamwork. According to Neves and Nakhai (2016), organizations and employers are increasingly seeking college graduates who are well prepared in teamwork knowledge, skills, and abilities.

## 4. Research objective and questions

The present study explores the development of teamwork among student teachers enrolled in a teacher education college in Israel. It follows the process of teamwork development during the practicum year of three consecutive groups of 12 student teachers each. Reflective journals of the

"student teachers" were used to document their experience in a practicum program. The research question investigated was: How do reflective journals help teacher educators better understand the development of teamwork among a group of student teachers in their practicum?

## 5. Method

### 5.1. Research approach

The present research is a qualitative, phenomenological study. This type of research focuses on an investigation of ways of perceiving and interpreting events by the individual (Holstein & Gubrium, 1994; Schwandt, 1994). The fundamental assumption is that knowledge lies in the specific meaning that people give their lives, and this influences the patterns of their behavior and beliefs. The phenomenological perspective is significant in studies that address processes of teaching, learning, and education in educational institutions: It has considerable importance in understanding these processes and it helps educators develop programs of learning and ways of teaching adjusted to diverse populations of learners (Entwistle, 1997; Prosser, 2000).

Reflective journals are one means of collecting data in qualitative research (Janesick, 1999), used especially in the behavioral sciences, and considered to be an effective way to obtain information about a person's feelings (Cohen, Manion, & Morrison, 2007). The data from the journals constitute process data (Goetz & LeCompte, 1984). They show what occurs during the implementation of any program or change and the participants' perception of these occurrences. Such data also enable the researchers to evaluate the contribution or success of the process or change.

Strauss and Corbin (1990) note that it is possible to explain phenomena from within the research data. The identification of the elements of the researched phenomenon enables an understanding of its meaning and the creation of a trustworthy mapping of the data into categories that are built "from" the respondents' point of view (Guba & Lincoln, 1994) (emic). The present study attempts to learn more about the process of collaboration as it develops among student teachers during their practicum, based on the information about their experiences and impressions provided in their reflective journals.

### 5.2. Research method

The present study focuses on the reflective journals of 36 student teachers in a teacher education college in Israel. The research was conducted for three consecutive years, each year on a different group of 12 student teachers doing their third-year practicum in the "Young Division"[1] of an elementary school. The student teachers had previously completed two years of student teaching in a regular kindergarten where they were supervised once in two or three weeks, lowering the chance for teamwork to develop. In their third-year practicum, the student teachers were assigned in pairs or in threes to one of the five "home units" of the school to practice their teaching for a year. Each home unit contained a learning space for the first grade, a play space for the kindergarten, and a shared space for joint activities for the kindergarten and first graders. As part of the practicum, the student teachers took part in weekly staff meetings of the Young Division, together with the regular and assistant teachers of all five home units. The student teachers also collaborated with all staff members of the Young Division to prepare activity days for the Young Division, at least twice a year. Frequent meetings between the pedagogical instructor and the group of student teachers were held. In the meetings, they discussed pedagogical issues related to the student teachers' experiences in the classroom, as well as to the content knowledge needed for teaching. Other issues were also raised, such as how to use teamwork in school, how to solve any difficulties the student teachers may be facing, and how to improve interpersonal communication.

The student teachers were asked to keep a record in a reflective journal of their classroom and teamwork experiences throughout the year. The student teachers were expected to document their experiences in class, including their difficulties and successes, and any insights they had about their students, the other student teachers in their group, and the teaching staff of the Young Division. The

reflective journals were submitted on a weekly basis to their pedagogical instructor, who read the entries and commented on the student teachers' documentation and insights. The use of journals according to Crème (2005) has many benefits for student teachers, such as allowing them to create questions and respond freely. In the practicum, the student teachers were encouraged to express themselves freely, as the journals were not graded. This policy prevented the student teachers from "writing for" the instructor. The student teachers gave their consent for their journals to be used in the research of the practicum program. The pedagogical instructor also kept a reflective journal in which she documented the student teachers' progress from her perspective. At the end of the term, all the reflective journals were collected and carefully read by both researchers.

### 5.3. Data collection and analysis

The researchers followed Moustakas (1994) approach of phenomenological analysis. This analysis is informed by intuition and reflection based on intensive and repetitive reading of the collected narratives. Introspection leads the eidetic reduction process. The researchers discovered some common themes related to the quality of the teamwork experienced by the student teachers at different times throughout the year. The themes that appeared in the journals helped the researchers discover the meanings in the text (Seidel & Kelle, 1995). As the entries indicated that the beginnings of teamwork were starting to appear among the student teachers and with the staff, and contained evidence of complaints about difficulties they were facing, the researchers were curious to find a theoretical model that could explain the development of teamwork and account for the experiences the student teachers had documented. This approach is what Maxwell and Miller (2012) refer to as theoretical categories: "Theoretical categories …, place the coded data into a more general or abstract framework. These categories may be derived … from prior theory …" (p. 113). Bendassolli (2013) also notes that researchers can deductively draw upon concepts from an extant theory in order to explain their emergent substantive theory.

When looking for a suitable model, the researchers engaged in theorizing processes in their careful search: "Data analysis depends on theorizing. The tasks of theorizing refer to 'perceiving; comparing, contrasting, aggregating, and ordering; establishing linkages and relationships; and speculating'" (Goetz & LeCompte, 1984, p. 167). The researchers speculated that, similar to findings by Somech and Drach-Zahavy (2007), there could be a connection between workplace difficulties and models of teamwork in the field of education. The researchers looked for models that take into account the feelings of resentment that the student teachers expressed in the orientation stage toward being assigned to an unfamiliar setting in their practicum. In addition, they searched for a model that emphasized the role of the facilitator in solving the difficulties the student teachers face. Rather, the researchers found that the development of teamwork as described by the student teachers in their reflective journals could best be accounted for by the combination of two models: the model team performance model for companies in the business world (Drexler et al., 2009) and the Punctuated-Equilibrium Model (PEM) (Gersick, 1988, 1989).

The research findings were positioned in a variety of ways of triangulation (Patton, 2002). The research findings have theoretical validation, since the categories, or stages, are based on a combination of two existing theoretical models of teamwork (Drexler et al., 2009; Gersick, 1988, 1989). The reporting of the findings is supported by quotes from the journal entries that describe what occurred from the student teachers' perspective and the processes they experienced. These quotes enable the readers to examine the validity of the research, since, according to Geertz (1973), they provide a "thick description."

### 6. Findings

The reflective journal entries provided the researchers with a better understanding of the development of teamwork among student teachers. Our findings suggest that teamwork develops in seven stages corresponding to Drexler's model of teamwork performance. The findings from the journals will be analyzed according to the seven stages of the model. The journal entries are marked according to first/second/third year of the research: I/II/III.

### 6.1. Stage 1—Orientation: "Why am I here?"

It is evident from the reflective journals that the student teachers experienced initial difficulties with their integration into the practicum project. Their experience corresponds to the first stage of the model, which begins with an unresolved situation, characterized by a lack of orientation, fear, and a lack of confidence.

The difficulties felt by the student teachers may have derived from their unfamiliarity with the new setting in their third-year practicum, that is, from the differences between the Young Division setting and regular kindergartens in Israel, as reported in their journals. In their first two years of teaching practice in regular kindergartens, the student teachers had worked in pairs and had been observed only once in two weeks by their instructor. The student teachers in their third year clearly felt a difference in the settings of the two types of kindergartens, as can be seen in the following entry:

> Last year, every two student teachers were in a separate kindergarten, and our instructor would visit us from time to time. We did not meet with the other members of our group, and therefore this year was something new for all of us. (B., I)

The writer indicates that she had gotten used to doing her work in the former kindergarten mostly by herself, apart from the others, relying on very little teamwork.

Whereas in their previous teaching practice in regular kindergartens the student teachers had interacted with one kindergarten teacher only, in the Young Division setting they interacted with several, more experienced teachers. This interaction was overwhelming at first for some of the student teachers. As one of them wrote:

> I came to the Young Division after observing a regular kindergarten. It was very strange and hard for me at the beginning. In the Young Division, I had to adjust to many new people: the kindergarten teacher, the kindergarten teacher's assistant, as well as to the first grade teacher … (M., II)

The student teachers' feeling of discomfort in their new school made them wonder "why am I here?" Thus, Sara wrote, "In the first encounter I was afraid that we would have a meeting with the kindergarten teachers. I felt so young in comparison, and they had so much experience" (S., I). Ma. added, "Even at the beginning I felt uncomfortable when meeting with the kindergarten teachers" (Ma., I). Similar feelings are documented in the pedagogical instructor's journal:

> I was worried about the responses of the student teachers to working in the Young Division. We explained to them that the practicum would be done there. The student teachers' response was anger and resistance to change … I left the meeting with many doubts and hard feelings … (R., I)

In retrospect, it became clear to the researchers that the student teachers' feelings of resentment most likely stemmed from their lack of preparation for the change in kindergartens. The researchers believe that had the student teachers been oriented properly and alerted to the differences in their new setting at the beginning of the year, they might have been less surprised and less frightened, and thus more likely to accept the change.

The findings from the student teachers' journals also correspond to a resolved situation of this stage of the model, a stage characterized by finding a goal, forming a team identity, and feeling like a member of the group. The journal entry of one of the student teachers hints at the beginnings of such characteristics: "After the instructors explained to us more about our work in the Young Division, I calmed down and felt I could relate to it" … (Ad., I).

Noticing the difference in the cooperation between the staff and the student teachers in a regular kindergarten and in the Young Division, another student teacher commented:

> The fact that I meet every week with all the student teachers and not only with one other, and that the whole team meets every week with all the kindergarten teachers, is wonderful, inspiring, encouraging, and enriching. The very fact that there is a supportive staff makes the practicum here more useful in comparison to a regular kindergarten (Mi., II)

Several weeks into the practicum, the researchers were finding from the student teachers' journal entries that their initial feelings of resentment and apprehension in the Young Division were giving way to more positive feelings, stemming from the teamwork that was beginning to develop among the student teachers and with the staff.

### 6.2. Stage 2—Trust building: "Who are you?"

The student teachers' reflective journals revealed that they were experiencing problems at first in building a relationship of trust with the school staff. According to the theoretical model, an unresolved situation at the stage of trust building is characterized by mistrust and by conflicts. The student teachers experienced this stage both at the group level (the relationships among themselves) and at the personal level (the relationships between the student teachers and the school staff). For example, Ruth one of the student teachers wrote about the tension among the student teachers in her group at the beginning: "… At the beginning of the year, it was not simple to do the teamwork. We faced difficulties: it was hard sharing our materials and ideas with other student teachers … Every one tried to work alone …" (Ru., III)

Before teaching a lesson, the student teachers would meet to prepare materials for the class. The following is a description of the same student teacher about her feeling of working alone, despite her being part of a team:

> Everyone worked by herself. There was no interaction among us; we did not know each other well. We tried to do things together, like share materials and ideas, but then some of us felt exploited. It became clear that some student teachers simply "took" the lesson plans of others and used them as their own (Ru., III).

The following is a description by Yael, one of the student teachers of her feeling of alienation, despite a group meeting:

> At the beginning of the year, when we worked together … it was very individual. Nobody asked anybody what they were doing, so they would not feel they had copied or used somebody's ideas. I, who needed help, had the feeling that there was no desire to share. (Y., I)

These descriptions bring into sharp focus the difference between true collaboration and imaginary collaboration. Being part of a team itself does not form a meaningful connection between individuals in a group. Rather, it is the nature of the members' interactions that leads to true collaboration. In this context, Fisher claims (2007) that meaningful teamwork includes collaboration which is relevant. In this study, at the initial stage of trust building among the student teachers, true collaboration had not yet developed.

As for forming a relationship of trust between the student teachers and the school staff, there is more evidence in the journals of an unresolved situation. A large gap between the group of student teachers and the regular teachers at the beginning of the process was apparent. The pedagogical instructor's journal documented the distance between the two groups:

> In the first meeting that I organized for the student teachers and the regular teachers, my goal was for them to get to know one another and discuss their expectations. I asked the participants to sit in a circle. The student teachers spontaneously sat on one side of the circle, while all the kindergarten teachers sat on the other side. This meeting reflected the reality at the beginning of the year: a group of regular teachers, who knew each other well, and a separate group of my student teachers—and no interaction between the two. (R., I)

According to the theoretical model, a resolved situation at this stage is characterized by a relationship of mutual respect in the group, familiarity among group members, and a willingness to forgive others. Lee (2009) applies this model to the field of education and maintains that it is possible for the group to transition from an unresolved situation to a resolved situation. To this end, an "enabler" is required, in other words, a person who will help a group of individuals to function as a team. The following entry in the student teachers' journals described the transition occurring with the help of the pedagogical instructor.

> Some of the student teachers took lesson plans from the other girls and used them as their own. I objected to this! The pedagogical instructor spoke with us about it, and we all agreed not to "copy" one another's ideas and materials. We decided it would be all right to get the team's help, but only if everyone contributed something of her own to the group. After this conversation, we felt there was a real change in our teamwork. (T., I)

In this context, Anat wrote about her idea of the best "recipe" for teamwork. In her journal entry, she stated that collaboration required mutual respect among team members.

> It is important to know how to listen to others, to agree, to share, to give in at times, but also to know how to say what is important to me! These skills are not to be taken for granted. It is important to begin teamwork with an open mind—this is the "recipe" that I learned for successful teamwork (A., III)

This entry shows how, as the year progressed, the feeling of being exploited by the others transformed into a feeling of collaboration. Another student teacher described it as follows:

> To work with other student teachers contributed to me greatly. We became a cohesive group and helped one another. I received help and gave help to the girls who were in other kindergartens, too. The girls helped me with ideas, with planning, and even with performance, and it was mutual. (Ru., III)

About the experience of "working together," which is a part of the process of collaboration, another student teacher wrote:

> The fact is that we shared with one another, we listened to one another, and we heard advice from the instructor and from the "girls." The knowledge that we all have similar problems gave a feeling that you are not alone, that you have partners.

> The pedagogical instructor's work with the group required transparency and forthrightness about the process of teamwork, as experienced by each of the group members. The transparency generated group discussions about positive and negative experiences, and concurrently, it opened a door to partnership. The following is an example from a student teacher's journal entry:

> The meetings with the pedagogical instructor and the rest of the student teachers were of value to me, since we could share our experiences as well as our difficulties with the group. This helped me to see that I am not the only one who finds student teaching difficult. I also realized that I could be happy for another group member who is satisfied with the lesson she taught. (S., II)

In addition to the relationship of trust created in the group of student teachers, similar relationships began to form between the student teachers and the kindergarten teachers. The student teachers' journals provide evidence of the feelings of trust and closeness that developed, and of the professional and emotional support given to them. Tal wrote in her journal, "During the year, I turned a number of times to other teachers on the team, besides my direct teacher. I felt I knew the others well enough from our meetings; I felt comfortable turning to them" (T., I).

The pedagogical instructor's journal provides another insight into the development of teamwork at this stage of the model, marked by "mutual regard and forthrightness," (Drexler et al., 2009), as follows:

> One of the important principles in the practicum was holding regular meetings with the group every day of the practicum. ... as time passed these meetings became a safe place for openness and for sharing their difficulties and successes. (R., I)

Collaboration develops through the relationships that form between group members. According to Fisher (2007), interpersonal relationships are the very heart of collaboration. The journals indicate the considerable meaning that the student teachers ascribed to collaboration as part of their teamwork.

### 6.3. Stage 3—Goal clarification: "What are we doing here?"

At this stage of the model, an unresolved situation is characterized by indifference, skepticism, and a lack of competition. In contrast, a resolved situation is marked by the clarity of goals and the creation of a shared vision. The transition from an unresolved to a resolved situation is illustrated in one student teacher's journal. The entry documents the shift in mood from the initial tension the group felt about planning an activity day for the Young Division to the group's relief at resolving the tension, during a meeting with their pedagogical instructor.

> Before the Activity Day began, some of us were very angry that other student teachers had not shown up to help with the preparations. Although we had all decided to meet at a certain hour, not everybody came, so the work had to be done by only some of the student teachers. Eventually we managed to get everything ready ..., and the Activity Day went well. Afterwards, in the follow-up conversation with our instructor, we discussed what had happened and why some of the student teachers had been angry. We realized that there had been a lack of communication among us that lead to an unfair division of the preparations. Following the meeting with our instructor and the school staff, we formulated rules for more effective teamwork in our group in the future (D., II)

Another journal entry highlights the importance of the instructor's role in building a sense of community and fostering a vision among the student teachers, regarding the same event:

> When we came to school in the morning, some of the girls were angry at each other ... At the end of the day, we sat with R. (the instructor), and reviewed all that had happened. We tried to understand why the girls were angry at one another. After a discussion of the issue, we reached the conclusion that there had been a lack of communication among us. R. (the instructor) spoke about the importance of open communication for the establishment of teamwork. (D., II)

The above example illustrates the pedagogical instructor's role in creating a conversation that builds positive communication based on a "shared vision" (Drexler et al., 2009).

The resolution of the misunderstanding among the student teachers was made possible through the active intervention of the instructor. Her efforts to create a conversation among the student teachers, to ask them to think about the events of the day, and to express their feelings aloud helped the group become more aware of the need for open communication for effective teamwork. To reach a shared vision, the instructor can provide the setting for the student teachers to resolve their differences in and encourage them to find their own solutions to the situation, an important ability for their professional development as future teachers.

### 6.4. Stage 4—Commitment: "How will we do it?"

The reflective journals include evidence of an unresolved situation both among the student teachers in the group and between the student teachers and the staff. Such a situation at this stage, according to the model, is marked by feelings of dependency and resistance, as can be seen in the following student teacher's entry:

> Today is supposed to be a day of sharing—between our group and the group of regular teachers. Honestly, I don't understand how they (the regular teachers) will take part in such a day. "We prepare all our materials by ourselves and the teachers get them ready-made …". (V., II)

In the following example, a student teacher described the transition from an unresolved situation to a resolved situation of clearly made decisions, following collaboration with her fellow student teachers. This situation shows the student teachers behaving not only like a team but also like a community of practice, as described by anthropologists Lave and Wenger (1991). Common learning and mutual respect characterize this type of community. The following entry indicates a desire and need for common learning on the part of the student teachers in order to prepare the required task.

> We were suddenly asked to prepare a study day on the topic of water. I asked myself, "What do they want from us, what did I get myself into?" I did not really understand what was required of me and what we were expected to do … I really felt like a big mess, confused, and helpless; I really wanted this day to be over with. (Re., I)

However, after thinking about the topic with the group, brainstorming ideas, and receiving support from her counterparts, the same student reported the results of the group's efforts in her journal:

> There is no doubt that the study day went well. I felt a much greater desire to help and contribute on the part of the others … especially since this was a day that we had planned together! I felt so good about it, really satisfied with the results of our collaboration. (Re., I)

The transition experienced by the student teachers in preparing for the study day also follows the team performance model, whereby agreed on roles are key to successful teamwork.

Similarly, Baggs and Schmitt (1988) maintain that collaboration on roles and expectations is one of the elements of teamwork: "Teamwork means that everyone knows exactly what his role is and relies on the others to fulfill their roles … all the work is done in collaboration and through open communication, counseling, and understanding of the others."

### 6.5. Stage 5—The—transition
The following insights of a student teacher into the essential role of the pedagogical instructor illustrate this claim:

> I see the role of the pedagogical instructor as a mediator and liaison between the student teachers and the school. She has considerable influence in helping us solve problems, in integrating student teachers in the classroom, in releasing group tensions, and in encouraging collaborative work among the group members. (Da., II)

The role of the pedagogical instructor is instrumental in promoting a "disciplined execution of the plans," which characterizes this stage of transition according to Gersick's model (1988, 1989). Her role also includes implementing the process of teamwork and cooperation among the student teachers in the group, as well as between the group and the school staff. Reut a student teacher testified to the feelings of friendship and cooperation with the school staff, as well as with her fellow student teachers, that resulted from the support and encouragement she received from the pedagogical instructor, as follows:

> The fact that I meet with all the student teachers and our instructor as a group every week, and that our group meets with all the teachers every week is wonderful, inspiring, encouraging, and enriching. The very fact that there is a large staff to support and help you makes the practicum more valuable, compared to working in a regular kindergarten with only one teacher. (Re., I)

Moreover, a student teacher who admitted feeling uncomfortable joining the kindergarten teachers in the first meeting later on expressed her appreciation of the need for joint efforts: "Today I understand that this cooperation is essential and appropriate" (S., I).

### 6.6. Stage 6—"working together"

In their journals, the student teachers reported that they felt a synergy with their fellow student teachers, that they interacted more spontaneously with the others, and that they were achieving good results. The experience of "being together" as a team of student teachers was part of the process of their collaboration.

> The fact is that we shared our feelings with one another, we listened to everyone else in the group, and got advice from the instructor and from the other student teachers. The knowledge that we all faced similar problems gave me the feeling that I was not alone, that I had partners. (Mi., II)

Their reflective entries expressed how meaningful the teamwork was for the student teachers, and how beneficial the insight was that teamwork could lead to good performance results. Another journal entry showed, for example, that toward the end of the year, initial feelings of exploitation had been transformed into feelings of appreciation. Hana a student teacher described the two main benefits of teamwork for her as follows:

> This year I understood how important it is to work in a team. This experience has contributed to me as an individual and to the group as a whole. You feel belonging, a sense of backup, empowerment, and support. The encouragement that you receive from the team members is invaluable. No one works alone, no one has to cope by herself. Working alone is far more difficult than having a team that can support, advise and guide you in the right way.

> Today I also know that teamwork forces me to be open to the opinions of others, causes me to understand that my suggestion will not always be welcome, and that I need to accept the opinion of the group. Teamwork requires listening to and understanding other people. Communication is very important. It also requires taking initiative, being active and not passive, and taking responsibility, since people depend on me. Each student teacher needs to be responsible for her role and to give all she has got to the task so that it will be performed well. (H., III)

These comments reflect the student teacher's perception and experience of learning about the importance of teamwork during the practicum year. It is possible to regard the need she felt for good communication skills mentioned in her journal as the basis for the development of effective teamwork. This description is commensurate with the definitions of teamwork by Salas, Cooke, and Rosen (2008): Teamwork is the constellation of the elements entailed by the effectiveness of the performances of a group of individuals.

The reflective journals described issues, such as identifying the existing reality, making changes in relationships, and developing patience and tolerance. The "student teachers" wrote about their feelings of connection and belonging to the school. "We are a significant group in the Young Division; we feel that we belong to the school, and this gives us motivation to continue our work there" (V.II).

The student teacher's entry indicates the significance of the partnership she felt the regular teachers had extended to the student teachers. Her journal entry is an expression, at this final stage of the model, of "recognition and celebration" of the fact that effective teamwork did develop between the student teachers and the teaching staff. The student teachers' insights into collaboration indicate that they valued the sense of sharing that the regular teachers showed them. The student teachers' journals revealed that toward the end of the practicum year, they felt they had become part of the school, as follows:

> Today I felt it was like a marathon. So many things to do! Assessments, mentoring, checking notebooks. Despite this load, it was a good feeling. It was a feeling of partnership, that we were doing the ongoing work together with the teachers. (Sh., III)

## 7. Conclusions and caveats

The study found that reflective journals can provide teacher educators with a better understanding of the development of the stages of teamwork among student teachers and between student teachers and the teaching staff. The reflective entries provided an opportunity for the researchers to explore the complexity of teamwork, identify the stages of its development, and analyze its significance for teacher education.

Apparently, there is no magic in the structure of a group: Grouping student teachers together in the hope that there will be some interaction between them does not necessarily lead to teamwork and better learning, to high-quality peer interaction, or to an improvement of the "participants" self-confidence and social skills (Johnson & Johnson, 1997). Reflective journals offer teacher educators a means of understanding the true nature of the learning that occurs during the group practicum. The openness with which the student teachers discussed their difficulties in their journals suggests that reflective journals are an important tool for understanding what happens in the "field."

The journals also provided evidence of the student teachers' ability to deal with their challenges, to form a sense of belonging to the group and to the school staff, and to develop effective teamwork skills. The reflective entries showed that the development of teamwork began in response to the difficulties the student teachers faced, during meetings held between them and the school staff to discuss their challenges and to look for ways of coping. The study found that given that teamwork develops over time, it was first necessary for the researchers to identify the student teachers' difficulties in the journals and then discuss ways of handling these issues with them for the teamwork to become effective.

According to Ramsey (1999), it is possible for student teachers to acquire tools for collaboration and teamwork through instruction and coaching by teacher educators. The instruction needs to include communication skills. In his opinion, communication is too important to leave to chance to determine whether it will or will not occur: Good leaders do not let external or internal communication "just happen." For good communication to happen, it is necessary to plan it carefully, to manage it methodically, and to supervise and improve it. The journal entries revealed that the weekly meetings between the student teachers and the pedagogical instructor were an appropriate forum for advancing this skill in the context of the student teachers' classroom experiences and difficulties.

The business model of team performance by Drexler et al. (2009) shed light on the process of the development of teamwork among the student teachers. The stages of the model of team performance in the business world helped define and clarify our students' stages of teamwork, the difficulties that arose at each stage, and the ways the student teachers progressed at each stage. Applying a business model to an educational setting was unique to this research, and it enhanced our educational study. The combination of Drexler et al. (2009) model with the Punctuated-Equilibrium Model (Gersick, 1988, 1989) enhanced our knowledge of the teamwork dimensions that the student teachers experienced. During the practicum, there was a change and the teamwork became most effective and efficient.

In the future, teaching the stages of Drexler's model will be implemented into our preparation of student teachers. The teacher education program in our college includes training for teamwork, but has not been organized according to the stages of Drexler's model. One major insight from our study has been the realization that the process the student teachers experienced in the practicum matched many of the stages of the model. The researchers believe, therefore, that the business model may be a useful teaching tool to introduce at the beginning of the practicum, to better prepare the student teachers for a new experience in an unfamiliar setting in their third year. Simulations based on

real situations involving teamwork could be carried out to help student teachers form realistic expectations of their work and lower their anxiety. They could be asked to analyze conflicts, dilemmas, and other anticipated problems according to the stages of the model and be encouraged to come up with original solutions for effective teamwork. This kind of training could help the student teachers be less apprehensive about working in the unfamiliar Young Division setting and more optimistic about their learning process as a community of practice.

The researchers recommend testing the combined Drexler's model on other groups, such as the teaching staff and student teachers in high schools, as well as looking for other models that might explain the development of teamwork. Future studies of this kind can enhance and validate the significant findings in this study. According to Lindroth (2015), there is also a need for longitudinal studies that may help answer a related question: How can the use of reflective journals in pre-service education affect in-service teaching?

In conclusion, the use of reflective journals by both the student teachers and the pedagogical instructor can help teacher educators to study their work and become more aware of what actually happens in the practicum and thus to strengthen the connection between practical training and theory. From our findings, we recommend using reflective journals in future studies as a tool to facilitate a better understanding in teacher educators of the complexity of student teacher learning and to explore the development of teamwork. As Boud wrote, "Journal writing is both a product and a process that helps us 'capture an experience, record an event, explore our feelings', or make sense of what we know" (Boud, 2001, p. 9).

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**Note**
1. A Young Division refers to an educational setup whereby children aged five to seven (kindergarten and first grade) study and play together. The Young Division mentioned above included five kindergarten classes paired with five first grade classes, forming five "home units."

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