Does burnout begin with student-teaching? Analyzing efficacy, burnout, and support during the student-teaching semester

Helenrose Fivesa,b,*, Doug Hammana, Arturo Olivarez

aCollege of Education, Texas Tech University, Box 41071, Lubbock, TX 79409-1071, USA
bDepartment of Educational Foundations College of Education and Human Services University Hall, Room 2128B Montclair State University
One Normal Avenue Montclair, NJ 07043, USA

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Abstract

The burnout process may begin as early as the student-teaching experience [Gold, Y., 1985. Does teacher burnout begin with student teaching? Education, 105, 254–257]. Data from 49 student–teachers in the southwest United States were gathered twice during their student-teaching practicum. Data assessing teacher efficacy, teacher burnout, learning climate, and cooperating teacher support (guidance or imitation) were analyzed using correlational analyses, repeated measures MANOVA, a 2 × 2 repeated measures MANOVA, and stepwise regression. Results indicated significant increases in efficacy and decreases in burnout symptoms over time. We found significant interactions in the three factors of burnout by guidance group, such that student–teachers experiencing high guidance demonstrated lower levels of burnout at the end of their practicum.

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The culmination of most student–teachers’ professional preparation is their entree into the classroom as a student–teacher. Student–teachers can be typified as having high expectations, knowledge of current pedagogy, and a heightened desire to meet the needs of their students in addition to meeting the demands of their cooperating teachers and student-teaching supervisors. Student–teachers, however, are in a precarious position in that their knowledge of pedagogy and child development is still naïve, and they are asked to work in ambiguous situations that require them to be both “student” and “teacher” (Fimian & Blanton, 1987). In this naïve state, student–teachers are then immersed in classroom situations that may or may not afford support, encouragement, and opportunities to deepen their knowledge and experience success. Moreover, many student–teachers see the teaching practicum as the final test of their teaching abilities and, occasionally, as a test of themselves as human beings (Sinclair & Nicoll, 1980). Therefore, it is important that we examine the extent to which these individuals experience stress or burnout, as well as how personal beliefs (teacher efficacy) and environmental factors (cooperating teacher and university supervisor support) may serve to enhance or mitigate their stress.
1. Literature review

Teacher efficacy and teacher burnout have been related to student achievement and teacher effectiveness (see Ashton & Webb, 1986; Farber, 1984; Friesen, Prokop, & Sarros, 1988; Tschannen-Moran, Woolfolk-Hoy, & Hoy, 1998). Yet, teachers’ efficacy judgments and their withdrawal from the teaching profession as a result of exhaustion and frustration (i.e., burnout) are typically treated as separate issues in the educational literature. Further, it is our contention, and the basis of this study, that meaningful relations exist between the constructs of teacher efficacy and teacher burnout, and that the degree and type of perceived support received will also influence this relation. Previous work in the field of burnout suggests that individuals may begin to experience this phenomenon as early as the student-teaching experience (Gold, 1985). The experience of burnout symptoms may be conceptualized as a developmental and variable process that is influenced by a variety of background, organizational, and personal factors (Byrne, 1999). In the present investigation we sought to understand the extent to which student–teachers experience symptoms of burnout, the depth of this distress, and to examine potential mitigating personal and environmental factors. Thus, this review defines and describes the development of teacher efficacy and teacher burnout, examines the role of perceived support, and considers the relations among these constructs in student–teachers.

1.1. Teacher efficacy

**Definition:** Teacher efficacy, defined as teachers’ beliefs in their abilities to organize and execute courses of action necessary to bring about desired results (Tschannen-Moran et al., 1998) is considered a future-oriented motivational construct that reflects teachers’ competence beliefs for teaching tasks. Teachers’ efficacy beliefs have been shown to be related to a number of important outcomes associated with education, including student achievement (e.g., McLaughlin & Marsh, 1978; Muijs & Reynolds, 2002), student motivation (e.g., Midgley, Feldlaufer, & Eccles, 1989), teacher valuing of educational innovations (e.g., Cousins & Walker, 2000), classroom management skills (Woolfolk, Rosoff, & Hoy, 1990), and teacher stress (Greenwood, Olejnik, & Parkay, 1990).

Current understandings of teacher efficacy underscore the multidimensionality and specificity of these beliefs (see Tschannen-Moran et al., 1998). For example the Tschannen-Moran and Woolfolk-Hoy (2001) measure of teacher efficacy (i.e. teacher sense of efficacy scale: TSES) identified three areas for which teachers may hold differing levels of efficacy: classroom management, instructional practices, and student engagement.

**Sources of efficacy:** Bandura (1997) identified four potential sources of self-efficacy beliefs: mastery experiences, vicarious experiences, verbal persuasion, and physiological cues. Mastery experiences include those opportunities in which individuals actually attempt and engage in the task under consideration. We believe that for many preservice teachers, student-teaching is their earliest mastery experience of teaching. Bandura (1997) suggested that mastery experiences will have the strongest influence on an individual’s sense of efficacy for any given task. Vicarious experiences are those occasions when we can observe or learn from the experiences of another person. However, with these experiences a strong determining factor is the similarity between the model (person being observed) and the individual whose efficacy is being formed (Bandura, 1997). During student-teaching, preservice teachers have the opportunity to observe and learn from their cooperating teacher as well as their peers. The strength of efficacy information originating from observations will be related to the extent to which the student–teacher identifies with the person being observed.

Verbal persuasion refers to encouragement the individual receives from other sources (Bandura, 1997). In the context of student teaching, an important source of verbal persuasion may come in the form of the perceived support the student–teacher receives from the cooperating teacher and university supervisors. Physiological cues are the physical reactions an individual has in relation to the task at hand. Student–teachers may have sweaty palms before their first class, experience stress headaches, or even an adrenaline rush at the end of the day. These and other physical reactions to a task provide individuals with information regarding their ability to be successful.

Thus, the student-teaching practicum is a unique time in teachers’ professional development. Student–teachers experience a prolonged mastery experience, with opportunities for both vicarious experiences and verbal persuasion, which serve to
facilitate the development of the preservice teachers’ teaching efficacy beliefs.

1.2. Teacher burnout

Definition: Freudenberger (1974) coined the term “burnout” as he watched a group of volunteers enter a helping field, give totally of themselves, and eventually overextend themselves to the point of emotional exhaustion. Based on his observations Freudenberger (1974) ultimately defined the term burnout as: “the state of physical and emotional depletion resulting from conditions of work” (p. 160). He further noted that it was “the dedicated and the most committed” who were the most likely to burnout as they “work too much, too long, and too intensely” (Freudenberger, 1974, p. 161).

This initial definition of burnout conceptualized by Freudenberger (1974) emphasized emotional exhaustion as the result of prolonged overwork and over-extension. Maslach and Jackson (1981) extended this initial understanding of burnout to include three unique symptoms considered to be the result of burnout: emotional exhaustion, depersonalization, and reduced personal accomplishment. For teachers, emotional exhaustion refers to the feeling of having given all that one can, that the teacher has put all of his or her energy and focus into the task of teaching and has finally run out of resources. This is the most common aspect of burnout, and is frequently what people mean when they complain of this malady (Anderson & Iwanicki, 1984). Depersonalization occurs when the teacher develops negative feelings and cynicism towards his or her students and perhaps even the school community. Depersonalization is the formation of “a very cynical and dehumanized perception of [clients]...in which they are labelled in derogatory ways and treated accordingly” (Maslach & Pines, 1977, p. 101). The final aspect of burnout, reduced personal accomplishment, relates to a negative self-evaluation in regard to students and not being happy with teaching as a profession (Anderson & Iwanicki, 1984). The result of this negative self-evaluation is a sense of distress and failure in the pursuit of ideals, leaving the teacher with a feeling of demoralization and abject failure (Friesen et al., 1988).

Burnout in student-teachers: A teacher does not wake up one morning suddenly burned out, rather this is a process that takes place over time, through a multiplicity of causes. The preceding descriptions of burnout factors reflect endpoints on continua of self-perceptions related to feelings of emotional exhaustion, depersonalization of students, and a reduced sense of personal accomplishment. At any given moment, however, a teacher may be in the process of burning out, and as such may experience varying levels of the factors associated with burnout. Thus, it is important to understand that individuals develop burnout indicators overtime, and that the initial experiences of burnout may be felt as early as student-teaching (Bowers, Eicher, & Sacks, 1983; Chan, 2003; Gold & Michael, 1985; Greer & Greer, 1992; Javis, 2002). Admittedly, when casting burnout in terms of an ultimate prolonged outcome (Friesen et al., 1988) it seems strange to consider student–teachers to be experiencing this kind of stress. Student–teachers however, may be vulnerable to the experience of burnout symptoms as they are new to the profession and may have few or limited coping strategies on which to draw.

Although the majority of research on teacher burnout has focused on practicing teachers (cf., Vandenberghe & Huberman, 1999), it has been suggested that the development of teacher burnout begins with the student-teaching experience (Gold, 1985). It is during student teaching that preservice teachers begin to learn the habits of the profession and begin to develop adaptive or maladaptive coping skills for dealing with the stress of teaching (Gold, 1985; Greer & Greer, 1992). Further, these individuals have often experienced academic success and are distressed when they learn that this does not necessarily translate to success as a teacher (Bowers et al., 1983). We do not suggest that student–teachers are likely to experience a full-blown case of professional burnout. Rather, we argue that student–teachers may begin to develop and experience the symptoms of burnout (emotional exhaustion, depersonalization of students, and reduced feelings of personal accomplishment) during their student-teaching practicum, a supposition that is tentatively supported by previous research.

Fimian and Blanton (1987) investigated the factor structure of preservice, first year, and experienced teachers’ sense of burnout and established the existence of the three components of burnout in preservice teachers. Specifically, they found that preservice and novice teachers exhibited burnout and role problems that were almost identical to those identified by experienced teachers. Similarly, Gold and Michael (1985) adapted the original Maslach burnout inventory (MBI) for a teaching audience. Using this new measure they assessed 147...
fifth year students enrolled in an elementary teacher preparation program and found that the three burnout constructs (emotional exhaustion, depersonalization, and reduced personal accomplishment) were clearly defined in all factor solutions. These results indicate that preservice teachers do, to some extent, experience the symptoms of burnout. Still, this work did not attempt to explain the development of burnout nor the influence of any mediating or moderating factors in its development (Fimian & Blanton, 1987).

More recently, Chan (2003) examined the role of hardiness as a form of resiliency in the stress-burnout relationship among 83 Chinese preservice teachers. Findings indicated that stress, resiliency, and vulnerability all had significant main, independent effects on the burnout factors of emotional exhaustion and depersonalization. In contrast, resiliency or positive hardiness with the only factor that significantly influenced personal accomplishment. This work offers additional empirical support the examination of burnout in preservice teachers. In particular, Chan called for a deeper understanding of the environmental and personal factors that may serve to influence the development of burnout and burnout coping strategies.

Additionally, research into the development of burnout with practicing teachers has identified several burnout influencing factors that are particularly salient for student–teachers, namely role ambiguity (Cunningham, 1982, 1983), work overload (e.g., Borg & Riding, 1991), classroom climate (e.g., Blaś, 1982), decision making (e.g., Natalie, 1993), and social support (e.g., Farber, 1984). With regard to personality factors, researchers have found teachers’ sense of control (i.e., locus of control, e.g., Farber, 1984) and self-esteem (Hogan & Hogan, 1982) to be related to teachers’ sense of stress and burnout.

More recently, Brouwers and Tomic (2000) have investigated the relation of teachers’ efficacy to burnout. Specifically, these researchers have studied, longitudinally, the relation of self-efficacy and burnout finding that these constructs seem to be related in experienced secondary teachers (Brouwers & Tomic, 2000). This work supports the notion that as successful mastery experiences are had efficacy increases and the effects of burnout decrease. Or the reverse, that if successful experiences are not garnered efficacy decreases and burnout levels rise. With respect to student–teachers, Morton, Vesco, Williams, and Awender (1997) found that student–teachers’ feelings of stress and anxiety decreased following positive teaching practice. That is, exposure to the teaching field and positive experiences in the classroom seemed to serve as mechanisms for reducing feelings of stress.

Thus, it may as Gold and Roth (1993) contend that “The pressures of the [teaching] profession manifest themselves early. They are evident in the teacher preparation process well before students become teachers in their own classrooms” (p. 2). That this early manifestation is more temperate and subject to development based on the experiences student and novice teachers have early in their careers.

1.3. Perceived support

The examination of any psychological construct cannot be successfully achieved without
consideration of contextual factors that influence how individuals function and think about their environment. As discussed in the preceding sections, efficacy and burnout are linked both theoretically and empirically to individuals’ perceived support. In the context of the present study, we focused on the perceived support student–teachers received from their cooperating teachers and their university supervisors.

Support from cooperating teachers: Cooperating teachers are typically portrayed as having a considerable influence on student–teachers (Hollingsworth, 1989; Lortie, 1975). Hamman and Olivarez (2005) developed a measure to assess the interaction that occurs between cooperating and student–teachers. This measure utilized the theoretical framework of dyadic interaction proposed by Grannot (1993). This framework consists of two continua along which interactions may be classified. The first continuum is concerned with the degree of collaboration. Grannot (1993) described this continuum as ranging from isolated work with only limited interaction, to instances where dyad members shared goals and actively collaborated. The second continuum is concerned with the relative expertise of the two actors. Expertise may range from symmetric expertise, meaning both members of the dyad have approximately equal knowledge, to an asymmetric condition where one clearly has more expertise than the other. We assumed that interactions regarding instruction between cooperating and student–teachers would most accurately be categorized as an asymmetric (expert-novice) condition.

Within the asymmetric condition, Grannot (1993) identified types of interactions that might occur depending on the degree of collaboration. A case where there is a low level of collaboration between the cooperating and student–teacher may be described as imitation. This classification primarily describes a situation where the cooperating teacher provides little help to the student–teacher. The student–teacher, left to her or his own devices, must learn to teach simply by observing and imitating the cooperating teacher. Such a situation is roughly parallel to the cooperating teachers identified by Borko and Mayfield (1995) as not actively participating in the learning of the student–teacher.

The next level of collaboration is characterized by the cooperating teacher’s guidance of the student–teacher, or treating her or him as an apprentice. In such a situation, the cooperating teacher engages in periods of active direction of the student–teacher’s learning. The cooperating teacher might observe and then evaluate activities of the student–teacher, or demonstrate actions and procedures for the student–teacher. In this type of situation, the cooperating teacher directs the interaction by having definite goals and standards for the student–teacher and using interaction to help her or him approximate the desired outcomes. Cooperating teachers who engage in guidance-type interaction are taking an active role in the student–teacher’s learning.

Support from the university supervisor: Additionally, the university-supported learning environment in which the student–teachers find themselves, biweekly observations and discussions with a university student-teaching supervisor, provides another avenue of perceived support. Deci and Ryan (2002) developed an instrument to assess the influence of the social context or learning environment on students’ motivation. Specifically, learning environments perceived to be autonomy supportive rather than controlling are believed to be more adaptive for positive motivational and performance outcomes (Deci & Ryan, 2002).

1.4. Teacher efficacy, teacher burnout and perceived support in student–teachers

The purpose of the present study was to explore the extent to which preservice teachers engaging in their student-teaching practicum exhibited symptoms of teacher burnout. Moreover, we sought to examine the development of this construct situated in salient background (i.e., grade level taught), organizational (i.e., perceived support), and individual (i.e., teacher efficacy) constructs that have been found to relate to burnout among experienced teachers. Therefore, we forwarded three research questions:

1. What relations exist among student–teachers’ efficacy beliefs, reports of burnout, and perceived support from university supervisor (learning climate) and cooperating teacher?
2. Do student–teachers’ reports of efficacy, burnout, and support change over the course of the student-teaching practicum?
3. What differences do student–teachers, reporting varying levels of cooperating teacher support, demonstrate with respect to efficacy, burnout, and supervisor support during the teaching practicum?
2. Methodology

2.1. Participants

Forty-nine student–teachers completing their student-teaching experience were included in this study. These participants were predominantly female (89.5%), and their average age was 24.1 years old ($SD = 4.08$). Participants described themselves as European American (88%), Hispanic (8%), African American (2%) and other (2%). There was some variation in student-teaching placement. Approximately 60% of the student–teachers were placed in elementary classrooms, while 40% were placed in secondary-level classrooms. Additionally, 51% of student–teachers chose to have a single placement with one cooperating teacher for the entire practicum semester, while 49% chose to have a split placement, spending one-half of the semester in one classroom at a specific grade level (e.g., Grade 1), and one-half of the semester in another classroom at a different grade (e.g., Grade 4).

2.2. Materials and measures

**Background information:** Participants provided relevant background information that included: their student-teaching placement, area of study, grade level taught, as well as general demographic information (i.e., age, gender, and ethnicity).

**Teacher sense of efficacy scale:** Student–teachers’ efficacy was assessed with the TSES (Tschannen-Moran & Woolfolk-Hoy, 2001). This 24-item measure asked participants to respond to the question “How much can you do?” in relation to a series of common teaching tasks. Participants responded using a 9-point scale indicating the degree to which they felt they could accomplish the indicated task (1—nothing, 3—very little, 5—some influence, 7—quite a bit, 9—a great deal). Factor analysis of the 24 items, conducted by Tschannen-Moran and Woolfolk-Hoy (2001), revealed a three-factor solution identifying areas of efficacy for instructional practices (IP), classroom management (CM), and student engagement (SE). Tschannen-Moran and Woolfolk-Hoy (2001) reported acceptable reliabilities for responses to the overall scale ($z = .94$), and the subscales (IP: $z = .91$; CM: $z = .90$; and SE: $z = .87$). The present data demonstrated similar levels of reliability (i.e., overall efficacy $z = .97$; IP, $z = .94$; CM, $z = .96$; SE, $z = .93$).

**Maslach burnout inventory:** The MBI—educator’s survey (ES) was used to assess burnout levels for each participant (Maslach, Jackson, & Schwab, 1986). The MBI is the most common measure used to ascertain levels of occupational burnout (Byrne, 1991). This 22 item, Likert-type survey measured three indicators of burnout, emotional exhaustion (EE), depersonalization of students (DP) and reduced personal accomplishment (PA). This instrument asks respondents to indicate “How often” (1 = never; 6 = every day) they felt each of a series of statements relative to each burnout indicator (e.g., EE: I feel emotionally drained from my work; DP: I feel I treat some students as if they were impersonal objects; PA: I have accomplished many worthwhile things in this job: reversed). Prior research substantiated the validity, reliability, and factor structure of the MBI–ES (Iwanicki & Schwab, 1981; Gold, 1985). Additionally, reliabilities for data gathered from each of the three scales ranged from .76 to .90 (Iwanicki & Schwab, 1981) and .72 to .88 (Gold, 1985). Reliabilities for data in the present study were similar and acceptable (EE, $z = .90$; DP, $z = .82$; PA, $z = .77$). Participants experiencing higher levels of burnout demonstrated high scores on the EE and DP subscale and low scores on the PA subscale. That is, greater feelings of burnout are indicated when participants reported greater feelings of emotional exhaustion and depersonalization of students, and a reduction in feelings of personal accomplishment.

**Learning to teach questionnaire:** The learning to teach questionnaire (LTQ; Hamman & Olivarez, 2005) was used to assess student–teachers’ perceptions of the interaction they experienced with their cooperating teacher related to classroom instruction. This is a 10-item 6-point Likert-type measure. Participants were asked to respond by indicating how frequently each statement was true of the interaction they experienced with their cooperating teacher. Participants identified the level of frequency for each item by selecting: 1 (never), 2 (almost never), 3 (sometimes), 4 (often), 5 (almost always), or 6 (always). Previous work with this instrument has identified two factors which indicate the type interaction between the cooperating and student–teacher. The first factor indicates the extent to which the student–teacher received guidance from the cooperating teacher (e.g., My cooperating teacher and I have worked together to improve my instruction this semester). The second factor reflected the extent to which the student–teacher...
imitated the cooperating teacher (e.g., I watch what my cooperating teacher does during instruction and then try it myself). Three un-weighted means scores were calculated for this study: a total level of interaction (\(z = .94\)), guidance from the cooperating teacher (\(z = .95\)), and imitation of the cooperating teacher (\(z = .90\)).

**Learning climate questionnaire**: The learning climate questionnaire (LCQ; Deci & Ryan, 2002) was used to assess student–teachers’ evaluation of the learning climate they experienced with their university assigned student-teaching supervisor. This instrument has been used to assess students’ perceptions of the environment which instructors create (Williams, Wiener, Markakis, Reeve, & Deci, 1994). The LCQ was developed by self-determination theory (SDT) researchers (e.g., Deci & Ryan, 2002) to assess the influence of the social context or learning environment, on motivation. Specifically, SDT characterizes social environments by the degree to which those environments are autonomy supportive or controlling (Deci & Ryan, 2002). Further, SDT hypothesizes that autonomy-supportive environments are more adaptive for positive motivational, developmental, and performance outcomes.

The LCQ served to assess the degree to which the student–teachers perceived their university supervisor to be autonomy supportive. Participants were instructed to respond to the LCQ based on their experiences only with their university supervisor who observed and gave feedback on their teaching performance. Participants responded using a 7-point scale (1 = strongly disagree, 4 = neutral, 7 = strongly agree) to indicate their level of agreement with each of 15 statements (e.g., I feel my instructor provides me with choices and options). Higher scores on this measure indicated greater perceived autonomy support. Reliabilities for this scale have repeatedly been .90 or higher (e.g., Black & Deci, 2000). Data for the present study demonstrated a reliability of .88.

### 2.3. Data collection procedures

Participants for this study were recruited from the student-teaching cohort located at a large southwestern university in the United States. Researchers associated with the study attended an orientation meeting for student–teachers held early in the practicum (i.e., student-teaching) semester prior to the beginning of their teaching experience. At this meeting, student–teachers were informed of the study and the procedures and timelines for participation. Additionally, information was gathered from interested student–teachers so that they could be contacted.

The study measures were made available to participants in an online format. Each student–teacher exhibiting interest in participating in this research was assigned a code and password to enable them access to the site. Student–teachers were sent a series of emails informing them when to complete the measures and were given a 2-week window in which to complete the measures at two separate points in the 12-week practicum. Initial data (Time 1) were gathered between the 4th and 6th weeks of the practicum. Data was gathered a second time (Time 2) between the 9th and 11th weeks of the practicum.

### 2.4. Learning context

Student–teachers were in contact with two separate members of university personnel for the duration of the study a capstone course instructor and their university student-teaching supervisor (university supervisor). The capstone course is a weekly seminar that is held in conjunction with the student-teaching practicum. Capstone instructors coordinated weekly meetings for approximately 25 student–teachers, presented topics of interest related to classroom management, legal issues, and assessment. The second university affiliate with whom student–teachers had contact during the practicum was the university supervisor. The contact with the university supervisor took place, on average, approximately once every two weeks. University supervisors’ tasks included observing student–teachers, offering feedback on observations, and meeting with cooperating teachers to determine student–teachers’ progress. In this study we only assessed participants’ perceptions of learning climate with respect to their experience with the university student-teaching supervisor. The university supervisors provided one-on-one support and feedback to student–teachers during their practicum and were considered to be an important influence on student–teachers’ practicum experience.

### 3. Results and discussion

Before addressing the main research questions, we conducted several preliminary analyses to better
guide our investigation and to ensure that we met necessary assumptions for our analyses. Initial differences for efficacy, burnout, learning climate, and interaction with the cooperating teacher were examined for two grouping variables: placement type (one placement for the whole semester vs. two placements for half of the semester each) and school level (elementary vs. secondary) at time 1. This was done to ensure that these groups could be combined without masking potential differences due to environmental conditions. No differences were found in the dependent variables based on placement type or for school level, with one exception. Burnout was found to differ significantly at the multivariate level based on school levels of the student-teaching experience [Wilks’ $\lambda = .803$, $F (3, 45) = 3.68$, $p = .02$]. In subsequent analyses, placement type was not included as an independent variable, but school level was in order to maintain consistency across analyses.

3.1. Relations among efficacy, burnout, autonomy support, and interaction support

Correlation analyses were performed on the dependent variables at both Time 1 and Time 2 (see Table 1). At Time 1, efficacy for student engagement, instructional practices, and classroom management were positively related to guidance for instruction from the cooperating teacher. Efficacy for instructional practices and classroom management were also related to the burnout factors of perceived personal accomplishment (positively), and related to depersonalization of students (negatively). Perceived autonomy support from the university supervisor (learning climate) was negatively related to student–teachers’ depersonalization of students and to their emotional exhaustion. There was no relation at Time 1 between any of the efficacy factors and emotional exhaustion. At Time 2, a somewhat different pattern of relations emerged. First, efficacy for instructional practices

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<td>.34*</td>
<td>.24</td>
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<td>.04</td>
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<td>-.33*</td>
<td>.02</td>
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<tr>
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<td>.42*</td>
<td>.27</td>
<td>-.36*</td>
<td>-.31*</td>
<td>.18</td>
<td>.22</td>
<td>1.00</td>
<td></td>
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<tr>
<td>18 Imitation</td>
<td>.34*</td>
<td>.32*</td>
<td>.25</td>
<td>-.21</td>
<td>-.30*</td>
<td>.13</td>
<td>.31*</td>
<td>.68*</td>
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Time 1

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<th>3.23</th>
<th>3.80</th>
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Time 2

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<th>7.10</th>
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<th>3.73</th>
<th>5.93</th>
<th>4.34</th>
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<tbody>
<tr>
<td>$SD$</td>
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<td>1.11</td>
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<td>1.11</td>
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<td>1.89</td>
<td>.86</td>
<td>1.34</td>
<td>1.05</td>
</tr>
</tbody>
</table>
and student engagement continued to be related to cooperating teacher guidance but efficacy for classroom management was no longer significantly related. Additionally, modest relations of efficacy for instructional practices and student engagement with imitation of the cooperating teacher also became evident at Time 2.

Further, significant relations emerged among the burnout and efficacy variables at Time 1 and at Time 2. At Time 1, efficacy for instructional practices and classroom management were negatively related to depersonalization of students. This indicated that individuals with greater confidence in their instructional and managerial abilities were less likely to depersonalize their students early in their student-teaching experience. However, at Time 2, a greater number of significant relations emerged among the burnout and efficacy factors. Specifically, all of the efficacy factors demonstrated negative relations with emotional exhaustion and depersonalization of students. Thus, student–teachers with higher efficacy levels at Time 2 were less likely to experience emotional exhaustion and depersonalize students. Additionally, efficacy for student engagement and instructional practices continued to be positively related to feelings of personal accomplishment. This indicates that those student–teachers who were more confident in their abilities to engage students and meet instructional needs also experienced greater feelings of accomplishment or satisfaction with their teaching experience.

These results seem to suggest that the relations among efficacy, burnout, autonomy support, and interaction support are somewhat fluid during the student-teaching practicum. Early on, student–teachers may derive efficacy information through interaction with their cooperating teacher, but toward the end of the practicum, salient efficacy information was also related to their own experiences of burnout symptoms. Likewise, the university supervisor may play a particularly important role at the outset of the teaching practicum, but over time, as student–teachers gain mastery, other factors become more salient to feelings of burnout and efficacy.

3.2. Changes in efficacy, support, and burnout over time

Efficacy changes: A 2 × 2 MANOVA with a mixed design was performed to examine changes in student–teachers’ efficacy beliefs between the early portion of the practicum and the later portion of the practicum. This analysis was conducted with the repeated measure of time (1 and 2) and school level (elementary and secondary) as the independent variables and teacher efficacy for engagement, instruction and classroom management, as the dependent variables. This analysis indicated no significant interaction effect at the multivariate level (time × school level) for student–teachers’ efficacy [Wilks’ λ = .91, F (3, 46) = 1.15, p = .22, η² = .09], nor were any significant differences found for the main effect of school level (elementary, secondary) [Wilks’ λ = .89, F (3, 46) = 1.71, p = .17, η² = .10]. Significant differences at the multivariate level were found for student–teachers’ efficacy beliefs based on the main effect of time (1, 2) [Wilks’ λ = .66, F (3, 46) = 7.48, p < .001, η² = .33]. Follow-up univariate analyses also revealed significant differences in efficacy for student engagement [F (1, 48) = 10.81, p = .002, η² = .19], instructional practices [F (1, 48) = 21.76, p < .001, η² = .32], and classroom management [F (1, 48) = 10.38, p = .002, η² = .18]. These results indicate that over time, student–teachers’ felt more confident in their abilities relative to student engagement, instructional practices and classroom management (Table 2).

The results from analyses of change over time suggest that efficacy beliefs increase significantly over the course of the student-teaching practicum regardless of placement type or school level. This finding is somewhat surprising given earlier work showing decreases in efficacy beliefs attributable to school-based experiences (e.g., Broussseau, Book, & Byers, 1988). The fact that student–teachers provided these ratings 4–6 weeks into the practicum

<table>
<thead>
<tr>
<th>Efficacy variable</th>
<th>Time 1</th>
<th>Time 2</th>
<th>p</th>
<th>η²</th>
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<tr>
<td>Student engagement</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>6.45</td>
<td>6.93</td>
<td>.002</td>
<td>.19</td>
</tr>
<tr>
<td>SD</td>
<td>1.23</td>
<td>1.17</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effective instruction</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>6.38</td>
<td>7.15</td>
<td>&lt;.001</td>
<td>.32</td>
</tr>
<tr>
<td>SD</td>
<td>1.06</td>
<td>1.11</td>
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<td></td>
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<tr>
<td>Classroom management</td>
<td></td>
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<td>M</td>
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<td>7.10</td>
<td>.002</td>
<td>.18</td>
</tr>
<tr>
<td>SD</td>
<td>1.31</td>
<td>1.29</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
experience, instead of prior to beginning, may account for the positive change.

Changes in feelings of burnout: Participants in this study were found to have differing levels of burnout at Time 1 relative to the school level in which they taught. Therefore, to examine changes in perceptions of burnout, a 2 x 2 MANOVA with a mixed design was conducted with time (1 and 2) and school level (elementary and secondary) as the independent variables, and the three burnout subscales as dependent variables (emotional exhaustion, depersonalization of students, and personal achievement—see Table 3). Results from this analysis revealed a significant interaction effect at the multivariate level between time and school level [Wilks’ $\lambda = .77$, $F(3, 45) = 4.37$, $p = .009$, $\eta^2 = .22$] as well as significant multivariate main effects for both school level [Wilks’ $\lambda = .73$, $F(3, 45) = 5.51$, $p = .003$, $\eta^2 = .27$] and time [Wilks’ $\lambda = .38$, $F(3, 45) = 24.69$, $p < .001$, $\eta^2 = .62$]. Analysis of univariate results for the interaction effect indicated that only one burnout variable, depersonalization of students, was statistically significant [$F(1, 47) = 11.66$, $p = .001$, $\eta^2 = .19$; (see Fig. 1)]. This indicates that while elementary level student–teachers reported higher amounts of student depersonalization at the beginning of the practicum than did secondary level student–teachers, at the end of the semester these elementary student–teachers reported significantly lower levels of student depersonalization at the end of the semester than did the secondary level student–teachers. Over the course of the semester depersonalization of students decreased across both groups but this decrease was greater for elementary level teachers.

Univariate results for the main effect of time yielded statistically significant differences for both emotional exhaustion [$F(1, 47) = 70.55$, $p < .001$, $\eta^2 = .60$], and depersonalization of students [$F(1, 47) = 37.90$, $p < .001$, $\eta^2 = .45$] such that at Time 2 student–teachers reported feeling less emotional exhaustion and less depersonalization of students. For the main effect of school level, none of the burnout variables reached statistically significance at the univariate level.

Like efficacy, feelings of burnout also seemed to change over time. Changes in burnout, however, may also be more sensitive to the level at which the student–teacher is working. Specifically,

![Fig. 1. Interaction effect of time and school level on preservice teachers' depersonalization of students.](image-url)

Table 3
Mean differences in burnout by time and school level (elementary and secondary)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Time 1 $M(SD)$</th>
<th>Time 2 $M(SD)$</th>
<th>$p_{time}$</th>
<th>$\eta^2_{time}$</th>
<th>$p_{level}$</th>
<th>$\eta^2_{level}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional exhaustion</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elementary</td>
<td>4.56 (0.68)</td>
<td>2.72 (0.94)</td>
<td>&lt;.001</td>
<td>.60</td>
<td>.08</td>
<td>.06</td>
</tr>
<tr>
<td>Secondary</td>
<td>3.79 (1.15)</td>
<td>2.65 (1.26)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depersonalization</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elementary</td>
<td>2.86 (0.46)</td>
<td>1.50 (0.64)</td>
<td>&lt;.001</td>
<td>.45</td>
<td>.60</td>
<td>.01</td>
</tr>
<tr>
<td>Secondary</td>
<td>2.49 (1.07)</td>
<td>2.10 (1.35)</td>
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<tr>
<td>Personal accomplishment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elementary</td>
<td>3.43 (1.19)</td>
<td>4.13 (1.98)</td>
<td>.08</td>
<td>.06</td>
<td>.06</td>
<td>.73</td>
</tr>
<tr>
<td>Secondary</td>
<td>2.92 (1.53)</td>
<td>3.10 (1.58)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
student–teachers working at the elementary level, compared to student–teachers working at the secondary level, indicated less of a tendency to depersonalize their pupils at the end of their student-teaching experience. There was no main effect for school levels, however, for student–teachers’ feelings of emotional exhaustion or personal accomplishment.

It seems reasonable that student–teachers may feel greater amounts of emotional exhaustion toward the beginning of their student-teaching practicum and that as they acclimate to the school environment and expectations of their cooperating teachers and university supervisors they become better able to manage stress. In fact, this finding is supported by the work of Morton et al. (1997) who found that student–teachers’ experience of stress declined subsequent to teaching practice.

The initial reports and later decrease in depersonalization of students, however, may be related to influences other than overwork. Within the theoretical framework of burnout depersonalization is considered to be a consequence of prolonged exposure to unmediated stress and overwork (Farber, 1984). In the present study, the student–teachers had only been exposed to students and the school environment for a short time. It may be that their reports of depersonalization early in the student-teaching practicum were more reflective of these student–teachers pre-existing beliefs about students and their conceptions of professionalism rather than the attributional result of overwork. Noddings (2001) has described the “professionalization” of teachers as a process by which notions of “care” are removed from the relations teachers have with students. The student–teachers in this study may have interpreted this expectation in their preservice course work and sought to distance themselves form the students with whom they were working by using depersonalization.

Alternatively, these student–teachers may have been hyper-sensitive to their interactions with students at the beginning of the semester, such that when they responded to items like “I’ve become more callous toward people since I took this job,” their basis of self-assessment was far removed from their current experience. Most preservice teachers see themselves as caring individuals, however, in the role of “teacher” these student–teachers may have needed to respond in ways that they perceived to be uncaring or callous.

Still, these student–teachers reported significantly greater feelings of depersonalization of students early in their student-teaching practicum and these feelings became significantly lower by the end of their experience. The reasons behind these reports require further study that would include assessments of student–teachers interpretations of the MBI–ES as well as their beliefs about students and their role as a teaching professional.

Changes in perceptions of support from the university supervisor and the cooperating teacher: A one-way repeated measures MANOVA was performed to examine changes over time in student–teachers’ perceptions of support from their university supervisor (learning climate), and the type of interactions (guidance and imitation) they had with their cooperating teachers concerning instruction. Results from this analysis revealed a statistically significant difference in support at the multivariate level based on time [Wilks’ λ = .25, F (3, 46) = 44.73, p < .006, η² = .74]. Follow-up univariate tests indicated that this significant difference was due solely to an increase in the degree to which student–teachers perceived autonomy support from their university supervisors [F (1, 48) = 134.08, p < .001, η² = .73, Time 1 = 3.80 (.99); Time 2 = 5.93 (.86)]. No significant differences were found in the extent to which student–teachers perceived themselves to either receive guidance from their cooperating teacher, or to imitate the instructional actions of their cooperating teacher.

These results suggest an interesting pattern in the way student–teachers perceive autonomy support over the course of their student-teaching experience. The extent to which they perceived autonomy support from their university supervisors appears to increase dramatically from the beginning to the end of the semester. This change may be attributable, in part, to the university supervisor’s release of control and transference of autonomy to student–teachers during the course of the student-teaching semester. Early in the semester university supervisors may be more directive and controlling in the feedback and expectations they convey to student–teachers and adapt this level of support as student become more capable in the classroom and able to handle increased levels of autonomy. These supervisors may feel a greater ability and need to shift control onto these student–teachers as they grow and develop as teachers. Further, the supervisors may be responding to the student–teachers’ needs to exert and experience greater control over their own learning. The manner in which student–teachers interact with their cooperating teachers...
concerning instruction, however, does not appear to change over the course of the practicum semester. This too is an interesting finding in that as student–teachers gain greater experience in the classroom, one might expect that cooperating teachers would alter the frequency of guidance regarding instruction, and that student–teachers would perceive themselves to be imitating their mentor less. The results from these analyses, however, suggest otherwise.

### 3.3. Relating change in efficacy and burnout to support during student-teaching

The analyses that follow were undertaken in order to examine how support from cooperating teachers and autonomy support from university supervisors might be related to differences in efficacy and burnout among student–teachers. A median split was used to create two groups (high vs. low) for each of the support variables (autonomy support from university supervisor, guidance from the cooperating teachers, imitation of the cooperating teacher) at Time 2. Analyses were conducted to determine if differences existed in efficacy and burnout based upon whether the student–teacher perceived autonomy support from the university supervisor and the cooperating teacher.

**Effect of university supervisor autonomy support:** A 2 × 2 repeated-measures MANOVA was conducted with time (1 and 2) and support level (higher vs. lower) as the independent variables; and efficacy for instructional practices, student engagement, and classroom management as the dependent variables. No significant differences in efficacy were identified [Wilks’ \( \lambda = .93, F(3, 45) = 1.02, p < .39, \eta^2 = .06 \)]. A second 2 × 2 repeated-measures MANOVA was conducted with time (1 and 2) and support level (higher vs. lower) as the independent variables; and emotional exhaustion, depersonalization, and personal accomplishment as the dependent variables. No significant differences in the burnout measures were identified [Wilks’ \( \lambda = .89, F(3, 45) = 1.78, p = .16, \eta^2 = .10 \)]. These results seem to indicate that autonomy support from the university supervisor had little influence on student–teachers’ efficacy beliefs or their feelings of burnout.

**Effects of cooperator guidance:** A 2 × 2 repeated-measures MANOVA was conducted with time (1 and 2) and guidance level (high vs. low) as the independent variables; and efficacy for instructional practices, student engagement, and classroom instruction as the dependent variables. This analysis revealed significant time by guidance group differences at the multivariate level [see Table 4; Wilks’ \( \lambda = .83, F(3, 45) = 3.08, p = .037, \eta^2 = .17 \)]. Follow-up univariate tests revealed significant time × guidance group differences in efficacy for instructional practices \( F(1, 47) = 6.24, p = .016, \eta^2 = .11 \); (see Fig. 2). This suggests that student–teachers who experience higher levels of guidance over the course of the student-teaching experience develop significantly higher levels of efficacy for instructional practices than those who receive lower amounts of guidance. Thus, high-guidance support from cooperating teachers is associated with increased feelings of confidence in abilities related to instructional practices for student–teachers.

In terms of efficacy for student engagement, we found significant differences for the main effects of time \( F(1, 47) = 10.60, p = .002, \eta^2 = .18 \), and

### Table 4
Descriptive statistics for efficacy variables by time and guidance group

<table>
<thead>
<tr>
<th>Variable</th>
<th>Teacher efficacy</th>
<th></th>
<th>Instructional practices</th>
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<th>Classroom management</th>
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<tr>
<td></td>
<td></td>
<td>Student engagement</td>
<td></td>
<td>Instructional practices</td>
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<td>Classroom management</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Time 1</td>
<td>Time 2</td>
<td>Time 1</td>
<td>Time 2</td>
<td>Time 1</td>
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<td>Guidance groups</td>
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</tr>
<tr>
<td>High</td>
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<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td></td>
<td>6.73</td>
<td>7.40</td>
<td>6.46</td>
<td>7.56</td>
<td>6.85</td>
</tr>
<tr>
<td>SD</td>
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<td>1.21</td>
<td>.79</td>
<td>1.03</td>
<td>.82</td>
<td>1.26</td>
</tr>
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<td>M</td>
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<td>6.10</td>
<td>6.34</td>
<td>6.27</td>
<td>6.64</td>
<td>6.07</td>
</tr>
<tr>
<td>SD</td>
<td></td>
<td>1.18</td>
<td>1.31</td>
<td>1.10</td>
<td>1.23</td>
<td>1.27</td>
</tr>
</tbody>
</table>

Guidance group: high = 27; low = 22.
guidance \( [F (1, 47) = 8.17, p = .006, \eta^2 = .15] \), but not for the interaction effect \( [F (1, 47) = 2.42, p = .12, \eta^2 = .05] \). Likewise, for efficacy for classroom management, we found differences for the main effects of time \( [F (1, 47) = 9.02, p = .003, \eta^2 = .17] \), and guidance \( [F (1, 47) = 5.06, p = .03, \eta^2 = .10] \), but not for the interaction effect \( [F (1, 47) = 161, p = .69, \eta^2 = .003] \).

A second 2 × 2 repeated-measures MANOVA was conducted with time (1 and 2) and guidance level (higher vs. lower) as the independent variables; and emotional exhaustion, depersonalization, and personal accomplishment as the dependent variables. This analysis revealed no significant differences in burnout measures based on extent of guidance from the cooperating teacher [Wilks’ \( \lambda = .85 \), \( F (3, 45) = 2.62, p = .06, \eta^2 = .14 \)].

**Effects of student–teacher imitation of the cooperating teacher:** A 2 × 2 repeated-measures MANOVA was conducted with time (1 and 2) and imitation level (higher vs. lower) as the independent variables; and efficacy for instruction, student engagement, and classroom instruction as the dependent variables. This analysis revealed no significant differences in efficacy based on extent to which the student–teacher felt they imitated the instruction of the cooperating teacher [Wilks’ \( \lambda = .86 \), \( F (3, 45) = 2.34, p = .08, \eta^2 = .13 \)]. A second 2 × 2 repeated-measures MANOVA was conducted with time (1 and 2) and imitation level (higher vs. lower) as the independent variables; and emotional exhaustion, depersonalization, and personal accomplishment as the dependent variables. This analysis also revealed no significant differences based on imitation group [Wilks’ \( \lambda = .90 \), \( F (3, 45) = 1.56, p = .21, \eta^2 = .09 \)].

Overall, the results from these analyses suggest that the effects of support from the university supervisor and the degree to which student–teachers imitate the instructional behaviors of their cooperating teachers have a limited effect on student–teachers’ feelings of efficacy or burnout. Efficacy beliefs about instructional practices do seem to be influenced, however, by the extent to which student–teachers perceive themselves to be receiving guidance from their cooperating teacher concerning instruction. One may posit that cooperating teachers who use guidance techniques serve to enhance the mastery experiences of those student–teachers. This may occur in a number of ways. First, these student–teachers are provided opportunities to teach on their own and initiate their own techniques and practices. Second, in the guidance relationship the cooperating teacher offers directive feedback that may serve to ensure successful teaching and, as such, a positive mastery experience. Finally, through opportunities to collaborate and discuss the teaching situation, the cooperating teacher may be enhancing the student–teacher’s ability to analyze the task and understand their own competency in ways that support positive feelings of efficacy.

### 3.4. Identifying support predictors of burnout for student–teachers

The previous analyses revealed little about what types of support might influence change in student–teachers’ experiences of burnout symptoms. In order to better understand what factors may influence changes in student–teachers’ experiences of burnout, we used regression analysis to identify possible predictors from the early portion of the semester that might be related to feelings of depersonalization toward the end of the practicum semester. For this analysis, we calculated a change score only for the factor of depersonalization of students. This decision was based on the results from previous analyses (see Table 3) that found significant change in the depersonalization variable over time. This score was calculated by subtracting student–teachers’ ratings of depersonalization at Time 2 from their ratings of depersonalization at Time 1. For this analysis, we conducted a mixed-effects regression model with student–teachers’ ratings of depersonalization as the dependent variable and student–teachers’ ratings of depersonalization at Time 1 and their change scores as the independent variables. Student–teachers’ ratings of depersonalization at Time 1 were entered as a covariate to control for differences in baseline ratings. The results of this analysis revealed a significant effect for the change score, indicating that student–teachers who experienced a greater decrease in depersonalization from Time 1 to Time 2 were more likely to have lower levels of depersonalization at Time 2. Additionally, the results revealed a significant interaction effect between student–teachers’ ratings of depersonalization at Time 1 and their change scores, indicating that the decrease in depersonalization over time was greater for student–teachers who had higher ratings of depersonalization at Time 1. These findings suggest that the degree to which student–teachers perceive themselves to be receiving guidance from their cooperating teacher concerning instruction may influence changes in student–teachers’ feelings of efficacy.
Time 1. Calculation of this change score revealed that changes were predominantly positive, meaning a decrease in the amount of depersonalization, with slightly less than 80% of the student–teachers exhibiting a reduction in the extent to which they had feelings of depersonalization toward their students.

A stepwise regression analysis was conducted with perception of support from university supervisor at Time 1; perceived guidance for instruction from cooperating teacher at Time 1, and perceived imitation of the cooperating teacher’s instruction at Time 1, as the predictor variables, and degree of change in depersonalization of students as the dependent variable (see Table 5). This analysis indicated that both autonomy support from the university supervisor and degree of imitation of the cooperating teachers’ instruction predicted changes in the extent to which student–teachers depersonalized their students \( F(2, 46) = 6.86, p = .001, \text{Adj-}R^2 = .22 \).

The results from the above regression analysis, although interesting, should be interpreted tentatively. The reason for this concern is the ratio between sample size and predictor variables. The current sample size of 49, however, was shown to be an acceptable size following the recommendations from a study by Park and Dudycha (1974) as cited in Stevens (1986). In particular, these authors demonstrated that with at least 15 subjects per predictor, the amount of shrinkage in any regression model would be relatively small. They caution, however, that in order to have the greatest confidence in the observed estimates, researchers should also attempt to cross-validate the results with similar populations of the same sample size.

In light of the above reservation, there are two points about these results that are of particular interest. First, an autonomy supportive learning climate is a “negative” predictor of change in student–teachers’ depersonalization of pupils. This means that greater autonomy support from the university supervisor is associated with less change in feelings of depersonalization. One explanation for this outcome is that a stronger endorsement of ratings related to autonomy support from the university supervisor may indicate that the student–teacher is experiencing a greater demand for self-regulation, self-reliance and autonomy. In such a case, when the university supervisor requires the student–teacher to exercise greater control of their teaching activities, the student–teacher may become overwhelmed, or may cope with this stress by depersonalizing students.

As to the association between change in depersonalization and imitation, this is interesting also, because it suggests that the more a student–teacher imitates the instruction of his or her cooperating teacher early on in the practicum, the greater the decrease in the extent to which student–teachers depersonalize their students. It may be that as these students engaged in imitation of cooperating teachers who did not depersonalize students the student–teachers began to redefine their beliefs about students, their perceptions of “being professional,” or their own conceptualization of what it means to be callous or impersonal with students.

Combined, the findings about change in efficacy and the predictors of change in depersonalization suggest that the student-teaching experience is a fairly stressful experience for student–teachers, and that the degree of structure (e.g., elementary classrooms with student contact and set routines; ability to imitate the cooperating teacher rather than be a “do-it-yourselfer”) may help reduce perceptions of

<table>
<thead>
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<th>Variables</th>
<th>Depersonalization (DV)</th>
<th>Climate</th>
<th>Imitation</th>
<th>Guidance</th>
<th>B</th>
<th>( \beta )</th>
<th>( s^2 ) (incremental)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Climate</td>
<td>-.37*</td>
<td></td>
<td></td>
<td></td>
<td>-.488</td>
<td>-.451*</td>
<td>.141*</td>
</tr>
<tr>
<td>Imitation</td>
<td>.26*</td>
<td>.16</td>
<td></td>
<td></td>
<td>.269</td>
<td>.236*</td>
<td>.108*</td>
</tr>
<tr>
<td>Guidance</td>
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<td>.24*</td>
<td>.66*</td>
<td></td>
<td>.128</td>
<td>.150</td>
<td>.012</td>
</tr>
<tr>
<td>Intercept</td>
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</table>

\( M = .98, SD = 1.07 \)

\( R^2 = .26, \text{Adj-}R^2 = .21, R = .51* \)

\( *p < .01. \)
depersonalization, but does little to affect feelings of efficacy.

4. Limitations

Before discussing the implications of this study several limitations must be acknowledged. From a methodological standpoint this work has three limitations. First, our sample size while adequate for the analyses conducted was still limited. Second, the lack of previous research warrants that a tentative interpretation and acceptance of the results presented until additional research can be garnered to support or refute our findings. Third, related to the lack of prior research, is the need to ascertain how the student–teachers in this study interpreted the burnout measure which may have important implications for our interpretations and future research.

Given our premise that burnout develops over time, the duration of this study, a single semester, limits our ability to understand how the student-teaching experience may influence these participants experience of burnout once they enter the teaching profession fully. If initial seeds of burnout or resiliency to burnout are sown during student teaching then this can only be ascertained through a multiyear longitudinal study.

We did not consider the cooperating teachers’ perspective, or examine how their own efficacy beliefs, experience of burnout symptoms or perceptions of interaction might be related to those judgments made by the student–teachers. Similarly, we need to learn more about the actions of the university supervisor that helped bring about changes in depersonalisation.

5. Conclusions

The results of this study allow us to suggest several conclusions. The correlational analysis conducted in this study illustrated that significant relations exist among efficacy and burnout factors. When examined across Time 1 and Time 2 we see that these relations become stronger. Moreover, the direction of these relations is such that as student–teachers’ levels of efficacy increase their degree of burnout decreases. This suggests that efficacy may serve as a means of ameliorating teachers’ feelings of burnout. It could be that over time these student–teachers’ sense of efficacy increases because their teaching abilities actually improved, thereby, improving their classroom instruction and decreasing the number of stressors that might emerge in a learning environment due to the inadequacy of their teaching.

This finding seems to imply that one potential means of decreasing teachers’ burnout is to provide them with efficacy-enhancing opportunities. That is, rather than just working to decrease stressors in the teaching environment during the student-teaching practicum, which may be impossible, teacher educators should focus on providing student–teachers with mastery and vicarious experiences that enhance both their teaching competency as well as their feelings of efficacy. This suggestion seems to be supported by the present finding that student–teachers who reported high-guidance interaction with their cooperating teachers also expressed higher levels of efficacy for instructional practice.

We also found significant changes over time in student–teachers’ perceptions of efficacy, burnout, and perceived support from their university supervisor. For efficacy, all participants, regardless of grade level taught, demonstrated significant increases in their levels of efficacy from Time 1 to Time 2. This seems to provide support for the need to have opportunities for student–teachers to engage in safe mastery experiences. An interesting question raised by this interpretation is whether these increases in efficacy are maintained through these student–teachers’ first year of teaching when the supports afforded them in the student-teaching experience are removed.

Previous research has indicated that novice teachers begin their careers with high levels of efficacy which frequently plummet during their first year of teaching and then slowly increase with experience (e.g., Podell & Soodak, 1993). The present study does not necessarily refute these findings for a number of reasons. First, we collected initial teacher efficacy scores approximately 4–6 weeks into the student-teaching semester. Therefore, this initial plummet in efficacy may have already occurred. Second, student-teaching is still a relatively safe and supportive environment for student–teachers when compared to their first year of teaching. Student-teaching may be an efficacy building time and may serve as a cushion for the efficacy drop in the first year of teaching. Finally, the measure of efficacy used in this study is based on more recent understandings of teacher efficacy and utilizes more specific measures of this construct,
whereas previous work has treated teacher efficacy more globally. Like efficacy, student–teachers’ reports of burn-out symptoms also changed over time. Student–teachers reported significantly less emotional exhaustion and depersonalization of their students. Beyond the relation of burnout to self-efficacy, it is unclear what may be responsible for these changes given the data gathered in this study. According to our findings, perceived support from the cooperating teacher remained constant over time, and changes associated with university supervisor support apparently were not directly related to change in burnout. As suggested previously, it may be that reports of depersonalization initially offered by these student–teachers were more reflective of their beliefs about students, professionalism, or their sensitivity to the instrument than the result of overwork and stress. It is, however, important to note that these student–teachers did express feelings of depersonalization early in their student-teaching semester (Time 1). This may be an area that could be addressed in university course work prior to their entry into the classroom.

We also found that student–teachers perceived their university supervisors to be more autonomy supportive over time. This suggests that toward the end of the student-teaching semester these student–teachers felt that their university supervisors were providing them with greater control and a stronger voice in their learning experiences. This may be a developmentally appropriate model of instruction for these student–teachers who will soon become teachers themselves and as such will gain full authority of the learning environment of their own students. However, further research in this area would help us to better ascertain the benefits and risks of this movement toward greater autonomy during student-teaching.

Finally, we found that the degree and type of support student–teachers received from their cooperating teacher influenced student–teachers’ efficacy for instructional practices. Specifically, we found that students who reported experiencing high levels of guidance from their cooperating teacher early in the semester had significantly higher levels of efficacy for instructional practices at the end of the semester than those students who reported less guidance. This indicates that cooperating teachers who guide their student–teachers may provide them with greater opportunities to enhance and build their efficacy beliefs. Moreover, the focus of those opportunities influenced student–teachers’ confidence for instructional practices. It may be that cooperating teachers should be provided with explicit preparation on how to provide guidance to the student–teacher with whom they work.

6. Implications

This research contributes to both educational theory and practice. From a theoretical perspective, this work brings together for study two critical constructs that directly influence the lives of teachers: efficacy and burnout. This work supports that of Brouwers and Tomic (2000), who have been exploring the relations of efficacy and burnout in practicing teachers, by providing complementary evidence of this relationship during student teaching.

Further, this research provides a limited developmental description of change in student–teachers’ experience of burnout and teaching efficacy. This information might be useful to teacher educators by identifying potential contributions to feelings of burnout among student–teachers. It also helps by showing what may contribute to their feelings of efficacy and how it changes over the course of the student-teaching practicum. Specifically, this study highlights the influential roles of both the cooperating teacher and the university supervisor. These findings suggest that it may be beneficial for cooperating teachers to receive some explicit training in how to provide guidance support for student–teachers.

Teacher burnout has long been recognized in the international research community as an important construct of study. For example Vandenberghhe and Huberman (1999) edited a volume entitled Understanding and preventing teacher burnout: A source book of international research and practice that overviewed the international perspectives on teacher burnout and the research on this phenomenon among teachers worldwide. The research showcased in this source book provided evidence of teacher burnout in Europe and North America, underscoring the international nature of teacher burnout. However, what was lacking in this volume was research investigating the existence and development of burnout in preservice teachers. Thus, the present student adds to the growing work examining burnout among this population (e.g. Chan, 2003).

Educational reform has been recognized as a potential stressor for teachers and as a potential
factor in the development of burnout. For instance, Evers, Brouwers, and Tomic (2002) have examined relations among teacher burnout and teacher efficacy in teachers in the Netherlands where recent changes in secondary education have led to new expectations for teachers. These new expectations serve as new stressors that may influence their experiences of burnout and feelings of teaching efficacy.

However, changes in educational policy are not limited to the Netherlands. Calderhead (2001) provided a detailed description and analysis of educational reform in 10 countries spanning the globe (i.e., England and Wales, Scotland, Sweden, Spain, Slovenia, Russia, Australia, New Zealand, Hong Kong, and China). These countries were identified as having major reforms related to the compulsory phase of schooling that concerned “organizational, curricular, or professional matters that are likely to have intended or unintended effects on teachers in teaching” (Calderhead, 2001, p. 778). These reforms influence the lives and experience of teachers and may lead, as Evers et al. (2002) suggested, to heightened stress and increases in burnout levels. Because educational reform seems to be happening at a global level it becomes more important that we understand the precursors and development of stress related disorders, like burnout, that may be caused, in part by these large-scale changes in the working lives of teachers.

Student–teachers may experience a unique form of vulnerability to reform-related stressors. In many cases, student–teachers are expected to implement “new” or “innovative” teaching systems that they did not experience as learners and were not prepared for in their university course work. In essence they are “teaching-blind” having neither personal experience nor professional preparation for the role they are expected to undertake. Thus, the findings of the present study may be of importance to teacher educators internationally. Especially regarding the ways in which cooperating teachers and university supervisors provide support than might enhance student teachers’ sense of efficacy.

Chan (2003) examined relations among burnout and hardiness factors in Chinese student teachers and called for a deeper exploration of personal and environmental influences on burnout in these participants. The present work recognizes both of these influences in our sample of student–teachers through the examination of efficacy beliefs and the supportive roles of cooperating teachers and university supervisors.

While there is much work to be done in terms of understanding the relations among teacher efficacy, teacher burnout, and perceived support, this study presents a major first step towards this goal and as such the goal of improving the educational experience for students and teachers. In response to our title question: Does burnout begin with student teaching? We can offer a mixed response. Student–teachers do report symptoms of burnout. However, over the course of the semester these feelings of burnout seem to decrease. Further, the cooperating teacher and university supervisors can play a role in helping to reduce feelings of burnout. Lastly, what remains to be seen, is how these feelings and perceptions develop and change as these student–teachers enter their first years of teaching.

References


**Further reading**