

# Preservice Teachers' Academic Memories of School: A Tool for Learning

Patricia A. Haught\*, Anne H. Nardi, Richard T. Walls

Learning Sciences and Human Development, West Virginia University

\*Corresponding author: [phaught@mail.wvu.edu](mailto:phaught@mail.wvu.edu)

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**Abstract** Prior research in memory examined recollections of school. The current study sought to extend earlier research concerning memories of school to preservice teachers. Based on prior research protocols, undergraduate teacher education majors (N=83) enrolled in an undergraduate Educational Psychology course were asked to describe teaching episodes that were related to (a) two memories of subjects in grades 1 through 12 they Plan To Teach and (b) two memories of subjects in grades 1 through 12 they Plan Not To Teach. For each description of an academic event, they indicated (a) what school subject it was, (b) what grade level, (c) how well they remembered the event, and (d) how unpleasant or pleasant the event was. Memories were more positive for the Plan To Teach subjects and more negative for the Plan Not To Teach subjects. This finding applied to both Elementary and Secondary preservice teachers who reported more pleasant memories for the subjects they Plan To Teach. More positive memories for Plan To Teach subjects were reported across the academic scoring categories of Teacher Behavior, Learning Experiences, and Recognition. Implications for the teaching of Educational Psychology and other foundation courses were discussed.

**Keywords:** *autobiographical memories, preservice teachers, teaching Educational Psychology, academic memories*

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## 1. Introduction

A major academic responsibility for Educational Psychology faculty on college and university campuses is to teach preservice teachers. This course typically occurs early in the preservice teachers' program and is not always linked to a clinical experience. With limited experiences in school, it is likely that their own K-12 experiences would influence preservice teachers' approaches to education in general and to instruction in particular. In fact, researchers [9] addressed this as well "Given the timing of most educational psychology courses early in the prospective teachers' college program, we [9] believe that the most valuable applications of knowledge from the course often are to the students' current lives" (p. 167).

Introductory courses in Educational Psychology include concepts of learning and teaching. Common key themes include (1) Developmental Theories, (2) Student Differences and Diversity, (3) Learning and Motivation, (4) Classroom Strategies, and (5) Student Assessment. Do preservice teachers have positive and/or negative recollections related to these themes? Absolutely. For example, the memories of motivation and student learning are often vivid across the grades (K-12). Preservice teachers hope to be able to overcome the negative effects (e.g., punitive or hostile teacher behavior) and perpetuate the positive

effects (e.g., nurturing and caring teacher behavior) that are resident in their memories of school. These memories are easily elicited in classroom discussions about motivation and learning, providing specific examples of the concepts.

## 2. Literature Review

School memories relate directly to one's beliefs about education. It is highly likely that a preservice teacher would compare personal classroom experiences to the Educational Psychology content being taught. For example, if Jillian attended a parochial school, her memories of that experience may lead her to believe that a traditional setting is more conducive to learning. So the idea of teaching in an open classroom environment may have little appeal. Is it possible for Educational Psychology courses to incorporate the collective memories of preservice teachers into the classroom to use them to guide instruction? The memories exist, and they influence beliefs about the learning environment. Researchers [9] suggested that "teachers' beliefs influence their planning, instruction, and interactions with their students" (p. 163). The literature on beliefs and attitudes [7] noted a sequence of belief development that results in attitude formation, which ultimately influences behavior. The link between beliefs – attitudes – behavior is reflected by the following

statement “Basically, we assume that human social behavior follows reasonably and often spontaneously from the information or beliefs people possess about the behavior under consideration” (p. 20) [7]. Our position is that memories can have an influence that is similar to that of beliefs. Reference [6] believed that teachers’ efficacy maybe attributed to their own experiences as students in school. Memories of prior experiences operate in ways similar to beliefs, thus influencing attitudes and, subsequently, behavior. The question is how can these memories and beliefs be used to enhance instruction in Educational Psychology?

One way of examining preservice teachers’ motivations to teach would be to elicit their autobiographical memories of their own school experiences. Autobiographical memories, as reported by college students, tend to emphasize social situations [15,23]. Reference [4] noted that autobiographical memory is significant for the development of identity and the sense of self. According to reference [3], autobiographical memory “...is the knowledge base of the self... Autobiographical knowledge then functions to ground the self in memories of actual experiences or remembered reality...” (p. 1377). An examination of this “remembered reality” has the potential to uncover events that have influenced personal learning experiences that impact the beliefs about classroom instruction.

Selective memories may lead to beliefs that, in turn, lead to attitudes. Reference [5] examined the attitude construct. Attitudes are formed based on cognitive, affective, and behavioral processes. Attitudes, thus, are correlated with thinking, feeling, and doing. Encountering thoughts and behaviors counter to one’s attitude may be treated as cognitive dissonance and be combated by seeking additional support for the attitude or disregarding the dissonant information. Resistance to attitude change may be manifested in the process of selective memory. Preservice teachers’ attitudes about instructional strategies, in general, and teaching a given subject matter, in particular, are strongly related to their memories of school. Thus, the prior K-12 experiences of preservice teachers may lead to the development of beliefs and subsequently to the formation of attitudes about teaching [5].

How might attitudes about teaching and K-12 school memories held by preservice teachers be used in an Educational Psychology course? Encouraging those students to use their own memories of K-12 learning could constitute an excellent experience for them. Then, actually trying out creative speculations based on those memories would potentially result in highly memorable learning experiences. Building stronger connections between (a) preservice teachers’ memories of their schooling experiences and (b) their beliefs and attitudes about teaching, strengthens the scaffold for exemplary instructional accomplishment.

Few studies have examined college student recollections or memories of school. These reported studies did not occur in an Educational Psychology setting. Graduates of a women’s college wrote descriptions of their first, second, third, and fourth “memories to come to mind” of their freshman year in college [15]. The two most common topics of the memories were housing (34%) and recreation/leisure (33%), with lesser recollection of academics (24%). University undergraduates wrote descriptions of their autobiographical memories of school in research conducted by researchers [23]. Even though

these college students were instructed that they could write about their school memories related to academics or social situations at school, the vast majority of the memories were “social” in nature. There was evidence of stronger memories of the more recent school years. Unpleasant event memories were most frequent in the early grades and decreased in proportion across the grade levels. A similar finding was also reported by other researchers [10].

Reference [22] conducted an investigation to extend knowledge of academic recollections about school subjects. In Data-Set 1, undergraduates (N=195) were directed to recall memories about Language Arts, Social Studies, Math, Science, Physical Education, and Music/Art. In Data-Set 2, undergraduates (N=179) were asked to recall academic memories but were allowed to choose the school subjects. In Data-Set 1, the scoring categories of Positive and Negative Learning Experience were reported more frequently than Positive and Negative Teacher Behavior, Positive and Negative Interpersonal Experience, or Positive and Negative Recognition categories. In both data-sets, Math was the only content area where the Negative Learning Experience category was most often reported. Extremely pleasant recollections were frequently reported for all school subjects in both data-sets [22].

Research more directly focused on teaching and teachers has documented that preservice teachers hold strong beliefs based on their earlier classroom experiences [9,14,18,24,27]. Twelve preservice primary teachers were followed across the first year of an education program in northern England. They were (1) interviewed four times, (2) shown videos of contrasting teaching styles in math and a video of a lesson on creative writing, (3) asked to imagine teaching a lesson, and (4) required to develop a script for that lesson. Analyses of their “images” of teaching revealed that students held an image of good and negative teaching based upon one or two particular teachers from their past who stood out as role models. Their scripts of proposed lesson plans were frequently modeled after observed practice. “We know that student teachers do spend time imaging their classroom performance and that some students have quite powerful and influential images of teaching” (p.8) that are derived from their own school experiences [2]. If prior K-12 experiences influence their perceptions about teaching, how can Educational Psychology faculty use these experiences to improve learning? In the present investigation preservice teachers were asked to recall academic memories following the procedures employed by the researchers [22]. This was formulated to provide documentation of academic memories held by preservice teachers.

### 3. Objectives of the Study

The specific objectives of this investigation were designed to answer the following research questions. 1. What content areas do education majors remember from their own K-12 academic experiences? 2. Do the participants write about more positive memories for the subjects that they Plan To Teach in contrast to the subjects they Plan Not To Teach? 3. Does intended Grade Level

(elementary versus secondary) relate to Pleasantness when recalling memories for subjects that will be taught or subjects that will not be taught? 4. Do memories of subjects they Plan To Teach and subjects that they Plan Not To Teach differ across the four academic scoring categories of Teacher Behavior, Learning Experience, Interpersonal Experience, or Recognition? 5. Do memories of intended Grade Level (elementary, middle, secondary, or art/music K-12) focus on the students or the subject/content area?

## 4. Methodology

### 4.1. Participants

The participants were 83 undergraduate education students at West Virginia University. There were 16 men and 58 women (9 individuals did not report gender) enrolled in an introductory Educational Psychology course. They elected to participate in the study and received a small number of extra credit points. The first author was an instructor in one of the four sections of the course where these data were collected. Procedures were approved by the University's Institutional Review Board for the Protection of Human Subjects. Participants were mostly Caucasian as is the current profile of this institution (86%) [12]. Information about ethnicity and socioeconomic status (SES) was not reported by the participants and, thus, could not be examined through data analysis.

### 4.2. Materials and Procedures

Participants were asked to describe teaching episodes that were related to (a) two memories of subjects in grades 1 through 12 they Plan To Teach and (b) two memories of subjects in grades 1 through 12 they Plan Not To Teach. For each description of an academic event, they indicated (a) what school subject it was, (b) what grade level, (c) how well they remembered the event, and (d) how unpleasant or pleasant the event was. The positive-negative event component of the present study consisted of Academic Categories coded by the authors based on earlier protocols employed by previous researchers [22] that included (1) Positive Teacher Behavior, (2) Negative Teacher Behavior, (3) Positive Learning Experience, (4) Negative Learning Experience, (5) Positive Interpersonal Experience, (6) Negative Interpersonal Experience, (7) Positive Recognition, and (8) Negative Recognition.

The primary variables were school subject, grade level in school, memory intensity, and affect. School subject referred to Language Arts, Social Studies, Math, Science, Physical Education, and Music/Art. Grade level in school included grades 1 through 12. Memory intensity described how well the individual remembered the event (from 1 - Barely at All to 6 - Almost Perfectly). Affect referred to how negatively or positively the individual rated the event (from 1 - Extremely Unpleasant to 6 - Extremely Pleasant).

Participants responded to materials in a four-page packet. The information provided on the first page described the voluntary, anonymous nature of the study being conducted to "find out more about what people remember in relation to academic topics." The second page asked for gender, major, and rank and provided the following instructions:

Describe four academic events that you remember that happened while at school. Academic events relate to a school subject matter such as Language Arts (Reading, English, Literature), Social Studies (History, Government, Geography), Math (Arithmetic, Algebra, Geometry), Science (General Science, Biology, Chemistry, Physics), Physical Education, and Music/Art. The event you describe for each subject matter should be the first one that occurs to you while filling out these pages. They can be from any grades (Grade 1 to Grade 12). Please tell the details of who was involved and what happened. After you write each description, circle the information asked for about that event. The first two memories will be based on a subject that you plan to teach. The last two memories will be based on a subject that you do NOT plan to teach.

Examples of events in Language Arts and Science were presented in rectangles (9 cm by 18 cm). These examples were handwritten to illustrate how a participant might respond to the prompts for the four academic event memories that followed. The Language Arts example was a scenario about doing a good job of reading in the first grade. The Science example was a scenario about an 11<sup>th</sup> grade physics teacher who demonstrated the concept of gravity by making a leap onto one of the lab tables. For both examples the school subject, grade level, memory intensity, and affect were circled to illustrate the rating procedure to be used by the participant.

Pages three and four of the packet included a brief one-sentence direction for each of the four memories and a blank 9 cm by 18 cm rectangular response box (two per page) for the participant to write his/her academic memory. Two boxes were included on page three of the packet with the words "SUBJECT THAT YOU PLAN TO TEACH" included within each of the two boxes. Two boxes were included on page four of the packet with the words "SUBJECT THAT YOU DO NOT PLAN TO TEACH" included within each of the two boxes. Below each box, the participant was to indicate the school subject, the grade level (1 to 12), the memory intensity (1 to 6), and the affect (1 to 6) for the event described.

There were 316 memories written by the 83 participants. These memories were categorized by the authors using the Academic Categories developed in an earlier study [22] to incorporate the primarily academic probes of their research. Thus, scoring procedures were based on the previously established coding rules. When the academic categorization of a particular recollection was unclear to a scorer, consultation between authors occurred [22].

We examined the academic memories of preservice teachers who were enrolled in an Educational Psychology course to see if their own K-12 classroom experiences (1) were related to the subject or content area in which they planned to teach, (2) yielded more positive memories for subjects they Plan To Teach, (3) were more pleasant depending on grade level for subjects they Plan To Teach or Plan Not To Teach, (4) were related to academic scoring categories, and (5) were focused on students or subject content.

## 5. Results and Discussion

The results are presented in terms of frequencies and content descriptions of the participants' memories. The

teaching episodes that they described were related to (a) two memories of subjects they Plan To Teach and (b) two memories of subjects they Plan Not To Teach. For each reported memory of an academic event, participants indicated (a) what school subject it was, (b) what grade level, (c) how well they remembered the event, and (d) how unpleasant or pleasant the event was.

**Research Question 1:** What content areas do education majors remember from their own K-12 academic experiences? For the frequencies of subject matter memories written by the participants for Plan To Teach and Plan Not To Teach, the memories in subjects that they Plan To Teach were in Language Arts (n=43), Art/Music (n=38), Social Studies (n=31), Math (n=22), and Science (n=22). The memories in subjects they Plan Not To Teach were in Science (n=34), Language Arts (n=28), Social Studies (n=25), Math (n=24), Physical Education (n=20), and Art/Music (n=20). These totals exceed the number of participants because the participants were not restricted to just one subject. The findings related to Research Question 1 provide evidence of the breadth of memories that preservice teachers recall.

**Research Question 2:** Do the participants write about more positive memories for the subjects that they Plan To Teach in contrast to the subjects they Plan Not To Teach? Participants' ratings of 5 and 6 on a 6-point scale were combined for Pleasant, and participants' ratings of 1 and 2 were combined for Unpleasant. The percentages of Pleasant memories for the Plan To Teach category were higher (65%) than the Pleasant memories for the Plan Not To Teach category (47%). In contrast, the percentages of Unpleasant memories for the Plan Not To Teach category were higher (36%) than the Unpleasant memories for the Plan To Teach category (17%). A chi-square analysis for the cross tabulations for Pleasantness (High versus Low) and Teach Memories (Plan To Teach versus Plan Not To Teach) produced a statistically significant chi-square value ( $\chi^2=16.17$ ,  $df= 1$ ,  $p < .01$ ) with more Pleasant memories for the Plan To Teach category.

Although most preservice teachers in the present investigation rated the memories of the Plan To Teach and the Plan Not To Teach subjects as being positive, the total number of reported Plan To Teach memories was substantially higher. This may be related to positivity bias. Reference [13] reported that researchers have suggested the presence of a self-serving attributional bias, with people making more internal, stable, and global attributions for positive events than for negative events.

The present study examined preservice teachers' memories about school subjects. These findings give rise to additional questions such as would their school memories become even more positive over time as earlier reported [22] and noted by reference [10].

Examples of extremely pleasant classroom memories (with ratings of 6, Extremely Pleasant) are presented in the Appendix. These Plan To Teach memories include all school subjects except Physical Education. There were no participants indicating Physical Education as a subject that they planned to teach. Extremely Pleasant memories may be examined in an Educational Psychology class for common or reoccurring elements or themes (e.g., level of student engagement) to encourage preservice teachers as they contemplate their own lessons.

**Research Question 3:** Does intended Grade Level (elementary versus secondary) relate to Pleasantness when recalling memories for subjects that will be taught or subjects that will not be taught? The grade levels were grouped in terms of Elementary (Grades K-4), Middle School (Grades 5-8), and High School (Grades 9-12). The majority of participants reported intending to teach at the Elementary level (n=35) or at the High School level (n=29). Fewer participants projected teaching at the Middle School level (n=7). There were 12 individuals whose grade levels for teaching were not included in this analysis (Special Education=2; information omitted=10). A chi-square analysis for the cross tabulations for Grade Level (Elementary versus Secondary) and Pleasantness (High versus Low) for the Plan To Teach Memories yielded a statistically significant chi-square value ( $\chi^2 =4.44$ ,  $df= 1$ ,  $p < .05$ ) with both Grade Levels having significantly higher positive recollections of the subjects that they Plan To Teach. In contrast a chi-square analysis for the cross tabulations for Grade Level (Elementary versus Secondary) and Pleasantness (High versus Low) for the Plan Not To Teach Memories was not significant ( $\chi^2 =0.004$ ,  $df= 1$ ,  $p > .05$ ). Since both elementary and secondary preservice teachers had more positive recollections for the subjects that they Plan To Teach, utilizing their recollections in subject-specific context would be helpful in Educational Psychology discussions.

**Research Question 4:** Do memories of subjects they Plan To Teach and subjects that they Plan Not To Teach differ across the four academic scoring categories of Teacher Behavior, Learning Experience, Interpersonal Experience, or Recognition? Four chi-square analyses were conducted to examine the Academic Categories that included (1) Positive and Negative Teacher Behavior, (2) Positive and Negative Learning Experience, (3) Positive and Negative Interpersonal Experience, and (4) Positive and Negative Recognition. A chi-square analysis for the cross tabulations for Teacher Behavior (Positive versus Negative) and Teach Memories (Plan To Teach versus Plan Not To Teach) yielded a statistically significant chi-square value ( $\chi^2 =3.88$ ,  $df= 1$ ,  $p < .05$ ) with more Positive Teacher Behavior memories reported for the Plan To Teach subjects and more negative Teacher Behavior memories for the Plan Not To Teach subjects. The second chi-square analysis for the cross tabulations for Learning Experience (Positive versus Negative) and Teach Memories (Plan To Teach versus Plan Not To Teach) yielded a statistically significant chi-square value ( $\chi^2 =5.71$ ,  $df= 1$ ,  $p < .05$ ) with more Positive Learning Experience memories than Negative Learning Experience memories reported for the Plan To Teach subjects and for the Plan Not To Teach subjects. The third chi-square analysis for cross tabulations for Interpersonal Experience (Positive versus Negative) and Teach Memories (Plan To Teach versus Plan Not To Teach) did not produce a significant chi-square value ( $\chi^2 = 2.40$ ,  $df= 1$ ,  $p > .05$ ). The fourth chi-square analysis for cross tabulations for Recognition (Positive versus Negative) and Teach Memories (Plan To Teach versus Plan Not To Teach) resulted in a statistically significant chi-square value ( $\chi^2 = 6.46$ ,  $df= 1$ ,  $p < .01$ ) with more Positive than Negative Recognition memories recalled for the Plan To Teach subjects. Thus, these results indicated the Plan To Teach memories were more positive across the academic scoring

categories of Teacher Behavior and Recognition. For the academic category of Learning Experience, more positive memories were reported for both the Plan To Teach and the Plan Not To Teach subjects. The differences observed for Interpersonal Experience were not statistically significant. All academic categories were used previously [22]. These findings may provide direction for the types of memories to rely upon in Educational Psychology classrooms.

**Research Question 5:** Do memories of intended Grade Level (elementary, middle, secondary, or art/music K-12) focus on the students or the subject/content area? It is reasonable to expect clearer differences between the memories of the Plan To Teach and the Plan Not To Teach subjects because of the declared majors of the preservice teachers. An analysis to examine whether Grade Level was related to Teach Memories (Plan To Teach versus Plan Not To Teach) in terms of content of shared memories (focus on student versus focus on subject matter) was conducted, but no clear patterns were found. The absence of clear differences in the content of the memories reported by secondary education majors is somewhat unexpected because they were preparing to teach one subject or content area (e.g., Science or Social Studies), and so they could easily note clear differences between those earlier experiences with the subject they Plan To Teach versus other subjects that they Plan Not To Teach.

It may be more difficult for elementary education majors to make these clear distinctions in memory content across Plan To Teach and Plan Not To Teach subjects since elementary teachers would ultimately teach four of the six listed subject areas including Language Arts, Social Studies, Math, and Science and may teach Physical Education and Art/Music [11,17]. Almost all memories were scored for a specific school subject. In a few instances, the participant noted that he or she engaged in a generic classroom activity such as “helped tutor a fellow student” but did not indicate the school subject. These findings, if replicated, might call into question traditional practice in Educational Psychology courses of grouping students by grade level of their teaching specializations.

## 6. Concluding Remarks

To extend earlier studies where students predominantly reported memories of social situations and academic subjects [16,23], the current study explored the memories of preservice teachers about the subjects that they Plan To Teach or Plan Not To Teach. The pattern of findings in this study suggest that, overall, more Pleasant than Unpleasant memories were reported, even for Plan Not To Teach school subjects. Detailed memories were given for both Plan To Teach and Plan Not To Teach events. Researchers [19] reported that college students “...show a strong tendency to tell memory narratives that provide detailed renderings of particular events” (p. 887). Participants in the present research described memories that were consistent with the reported school subjects. It is well documented that preservice teachers hold strong beliefs based on their earlier K-12 experiences [1,2,8,14,25].

Recollections of various lessons that remain salient and positive with the passing of time might provide insights to teachers with varying levels of experience (e.g., preservice, first-year, established, veteran in the classroom). For example, what makes a science lesson dynamic, exciting, and memorable? Or, what kinds of lessons can be used to make math fun and positive? This information may be gleaned from the school memories of educators. The current study serves as an initial effort in learning about the impact of these early K-12 academic memories held by preservice teachers’ enrolled in an Educational Psychology course.

A survey of contemporary Educational Psychology textbooks [20,21,26] reveals that the topic of preservice teachers’ memories is rarely, if at all, addressed. However, beliefs are discussed in some of the texts in terms of how they relate to motivation to learn. Thus, in Educational Psychology courses, preservice teachers are taught that one's beliefs about personal learning can directly impact "if" and "how" learning occurs. Preservice teachers do consider their own school experiences through their own memories when they contemplate classroom performance and teaching [2]. Memories provide the foundation on which preservice teachers base their perceptions of students and classroom learning. The current investigation examined preservice teachers' memories and found that preservice teachers hold positive memories about all subjects including those that they plan not to teach. Those memories can serve as a tool used by Educational Psychology faculty for instruction about classroom practice, learning, and motivation through discussions, reflections, journal entries, and simulations. Having students in education foundation and methods courses recall their own school experiences and connect them to current course topics may be beneficial in helping students grasp and apply course content.

## References

- [1] Buchmann, M. (1987). Teaching knowledge: The lights that teachers live by. *Oxford Review of Education*, 13, 151-164.
- [2] Calderhead, J., & Robson, M. (1991). Images of teaching: Student teachers’ early conceptions of classroom practice. *Teaching & Teacher Education*, 7, 1-8.
- [3] Conway, M. A. (2001). Sensory-perceptual episodic memory and its context: Autobiographical memory. *Philosophical Transactions of the Royal Society of London*, 356, 1375-1384.
- [4] Conway, M. A., & Pleydell-Pearce, C. W. (2000). The construction of autobiographical memories in the self-memory system. *Psychological Review*, 107(2), 261-288.
- [5] Eagly, A. H., & Chaiken, S. (1993). *The psychology of attitudes*. Fort Worth, TX: Harcourt Brace Jovanovich College Publishers.
- [6] Edwards, M. N., Higley, K., Zeruth, J. A., & Murphy, P. K. (2007). Pedagogical practices: Examining preservice teachers’ perceptions of their abilities. *Instructional Science*, 35, 443-465.
- [7] Fishbein, M., & Ajzen, I. (2010). *Predicting and changing behavior: The reasoned action approach*. NY: Psychology Press.
- [8] Florio-Ruane, S., & Lensmire, T. J. (1990). Transforming future teachers’ ideas about Writing instruction. *Journal of Curriculum Studies*, 22, 277-289.
- [9] Hoy, A. W., & Murphy, P. K. (2001). Teaching educational psychology to the implicit mind. In B. Torff & R. J. Sternberg (Eds.), *Understanding and teaching the intuitive mind: Student and teacher learning* (pp.145-184). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.
- [10] Mather, M., & Carstensen, L. L. (2005). Aging and motivated cognition: The positivity effect in attention and memory. *Trends in Cognitive Sciences*, 9(10), 496-502.

- [11] McKenzie, T. L., Stone, E. J., Feldman, H. A., Epping, J. N., Yang, M., Strikmiller, P. K.,...Parcel, G. S. (2001). Effects of the CATCH physical education intervention: Teacher type and lesson location. *American Journal of Preventive Medicine*, 21(2), 101-109.
- [12] Media Factual, College Factual. (2014). West Virginia University Report. Retrieved from <http://www.collegefactual.com/colleges/west-virginia-university/student-life/diversity/>.
- [13] Mezulis, A. H., Abramson, L. Y., Hyde, J. S., & Hankin, B. L. (2004) Is there a universal positivity bias in attributions? A meta-analytic review of individual, developmental, and cultural differences in the self-serving attributional bias. *Psychological Bulletin*, 130(5), 711-747.
- [14] Pajares, M. F. (1992). Teachers' beliefs and educational research: Cleaning up a messy construct. *Review of Educational Research*, 62(3), 307-332.
- [15] Pillemer, D. B., Goldsmith, L. R., Panter, A. T., & White, S. H. (1988). Very long-term memories of the first year in college. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 14(4), 709-715.
- [16] Pillemer, D. B., Picariello, M. L., Law, A. B., & Reichman, J. S. (1996). Memories of college: The importance of specific educational episodes. In D. C. Rubin, *Remembering our past: Studies in autobiographical memory*. (pp. 318-337.) Cambridge, England: Cambridge University Press.
- [17] Propst, T. G. (2003). The relationship between the undergraduate music methods class curriculum and the use of music in the classrooms of in-service elementary teachers. *Journal of Research in Music Education*, 51(4), 316-329.
- [18] Richardson, V. (2003). Preservice teachers' beliefs. In J. Raths & A. C. McAninch (Eds.), *Teacher beliefs and classroom performance: The impact of teacher education* (pp.1-22). Greenwich, CT: Information Age Publishing.
- [19] Singer, J., Rexhaj, B., & Baddeley, J. (2007). Older, wiser, and happier? Comparing older adults' and college students' self-defining memories. *Memory*, 15(8), 886-898.
- [20] Snowman, J., McCown, R., & Biehler, R. (2012). *Psychology applied to teaching* (13<sup>th</sup>ed.). Belmont, CA: Wadsworth, Cengage Learning.
- [21] Sternberg, R. J., & Williams, W. M. (2010). *Educational psychology* (2<sup>nd</sup>ed.). Upper Saddle River, NJ: Pearson Education, Inc.
- [22] Walls, R. T., Haught, P. A., & Nardi, A. H. (2011, April 9). Young adults' memories of school. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.
- [23] Walls, R. T., Sperling, R. A., & Weber, K. D. (2001). Autobiographical memory of school. *The Journal of Educational Research*, 95(2), 116-127.
- [24] Wideen, M., Mayer-Smith, J., & Moon, B. (1998). A critical analysis of the research on learning to teach: Making the case for an ecological perspective on inquiry. *Review of Educational Research*, 68(2), 130-178.
- [25] Wilson, S. M. (1990). The secret garden of teacher education. *Phi Delta Kappan*, 72, 204-209.
- [26] Woolfolk, A. (2013). *Educational psychology* (12<sup>th</sup>ed.). Upper Saddle River, NJ: Pearson Education, Inc.
- [27] Wubbels, T., & Korthagen, F. A. J. (1990). The effects of a preservice teacher education program for the preparation of reflective teachers. *Journal of Education for Teaching*, 16, 29-43.

## Appendix

Sampling of Extremely Pleasant (ratings of 6) Activities for Reported School Subjects

### Language Arts

- In 1<sup>st</sup> grade the teacher played the piano before every reading lesson and we gathered around and read fun stories.
- In 9<sup>th</sup> grade we studied Romeo and Juliet. We read the play and watched a movie. Afterwards we completed a project (e.g., building a small scale model of the theater, designing costume, for the play, or writing a poem).

### Social Studies

- In 4<sup>th</sup> grade we held a mock trial about a robbery at McDonalds to help us learn about the judicial system. I was the DA and won the case.
- In my social studies class in 8<sup>th</sup> grade, we were learning about George Washington. My teacher dressed up like him one day and acted like he was George. He taught our class from George's point of view. He even used an accent. He stayed in character the entire time.

### Math

- In 3<sup>rd</sup> grade I remember that we were learning our multiplication tables. My teacher had a big flower on the wall and a bunch of bees with our names on them. Each part of the flower represented a table (1s, 2s, 3s, etc.) and when we mastered one our bee would get put on that number. I was in a race with another girl to get my bee to the 10 first and I won. I learned my multiplication tables really well and really fast.
- In 9<sup>th</sup> grade geometry we learned about different shapes. We made scrapbook pages cutting our pictures into different shapes.

### Science

- In sixth grade, my science teacher was doing a lesson on the parts of the cell. She started with a pan of Jell-O and put different fruits and candy in it to illustrate the different organelles. I think one thing that really makes it stand out was that she let us eat it later!
- In 5<sup>th</sup> grade, groups of four students constructed the solar system with materials of our choice. I worked with three of my best friends. We spent hours on this project, meeting several times at our various homes. We did our project with different types of candy and the entire class loved our idea.

### Music/Art

- My General Music instructor in elementary school used creative games to teach the basic skills required to read music. He used tape to make a music staff on the floor. The students threw chalkboard erasers onto the staff, then named the notes where the erasers landed, each team was awarded points for correct answers. He also wrote music symbols such as rests, clefs, note shapes and time signatures on large cards. He turned them facedown and students tossed Koosh balls at them. Correctly naming the pictures earned points.
- In 1<sup>st</sup> grade art we made ceramic squares that would be part of a collage on the school wall. We fired them in a kiln and then painted them. Not everyone's square ended up on the wall of the school so I was very proud that mine did.