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Teachers' Conceptions of Creativity and Creative Students

ABSTRACT Teachers' conceptions of creativity and creative students were investigated. Questionnaires were administered to elementary school teachers to examine their attitudes, beliefs, and current classroom practices. Teachers were found to possess inaccurate concepts regarding what constitutes creativity and revealed conflicts with the classroom behaviors demonstrated by creative students. The paradox between teachers' reported support for creativity enrichment and virtual lack of related classroom practice is explored as a result of multiple misconceptions and contributing variables.

INTRODUCTION The importance of providing creative learning opportunities in the regular classroom is well-established (Cole, Sugioka, & Lynch, 1999; Torrance, 1976). Herein lies the challenge. To foster student creativity, teachers need to identify characteristics of the creative personality, recognize creative production, understand the cognitive processes used by creative students, and ultimately establish an environment that promotes the child's interests (Hill, 1992).

Ironically, findings from Torrance's (1963) study of 650 teachers revealed that the personalities of creative students are at odds with the student characteristics preferred by most teachers. Behaviors of creative students, such as being playful, emotional, open, critical of others, and stubborn, are discouraged and thought to be disruptive to the existing organization. Regarding school discipline, Guncer and Oral (1993) reported that teachers perceived highly creative students as nonconformists, easily distracted, experiencing obstacles in fulfilling their academic obligations. Dawson (1997) reported that the

students who are highly creative are more likely to be unpopular with their teachers and more likely to get into trouble with teachers. Teachers' negative attitudes toward creative students is a re-occurring theme throughout the literature (Dawson, 1997; Stone, 1980; Bachtold, 1974; Torrance, 1963)

Reportedly, many students who possess personalities disliked by their teachers turn out to be those students who are highly creative, even though their teachers may not recognize them as such. Teachers' have many misconceptions regarding what constitutes creativity. Mayfield (1979) assessed students on standardized creativity tests and then asked their teachers to describe the creative abilities of those students. The findings revealed that teachers were not able to judge creativity dimensions. Teachers showed a general lack of understanding about the nature of creativity and the characteristics of creative students (Fleith, 2000; Reid & McGuire, 1995; Slabbert, 1994; Torrance & Safter, 1986). Even when teachers described creativity with positive attributes, their conceptions of creativity were fraught with inconsistencies. Runco, Johnson, and Bear (1993) found that teachers describe creative students as cheerful, easy-going, emotional, friendly, and spontaneous. Tan (2000) reported that teachers describe creativity as "imagination" and "uniqueness" but most often associate creativity with "artistic ability". Fryer and Collings (1991) found that 70% of the teachers thought creativity was "rare", 53% thought that creativity involved nothing more than "divergent thinking", while 33% thought it involved "valuable ideas". Optimistically, however, most teachers stated that creativity could be developed.

Although many teachers (Cohen, 1988; de Bono, 1985, 1990; Grupas, 1990; Isaksen, Dorval, & Treffinger, 2000; Lynch & Harris, 2001; Osborn, 1953; Petersen, 1997; Sternberg & Williams, 1996; Torrance & Safter, 1986) attest to the importance of fostering student creativity and of providing a variety of methods and strategies to achieve this goal, there is debate as to whether teachers are qualified to recognize and enhance creative behaviors (Mack, 1985; Slabbert, 1994; Stoychera, 1996; Torrance & Safer, 1986; Welkener, 2000). Again, teachers do not seem to like creative personalities. Their practices discourage creativity by emphasizing obedience, good manners, and traditional thinking. Teachers prefer students with high IQs, less creativity, and greater compliance. In a longitudinal study spanning 22 years, Torrance (1980) explored creativity demonstrated at the elementary level as a predictor of

later adult creativity. He found that many children lose their creative tendencies around the time they enter fourth grade. It should be noted however, that in fourth grade, letter grades are introduced, representing more differentiated levels of student achievement. High stakes accountability increases pressure to master curricular content. Creative, divergent responding is at odds with producing correct, convergent responses necessary for obtaining high grades. Teachers won't support creativity in the classroom if it is undervalued (Torrance, 1963) and in light of the aforementioned findings, it would appear that the phenomenon of creativity is often misunderstood and unappreciated.

PURPOSE Literature reviews of creativity frequently illuminate comparisons between teachers' intuitive perceptions and experts' opinions (Fryer and Collings, 1991). Many studies used checklist instruments or simple observations to describe teachers' practices that either enhanced or inhibited creativity (Bachtold, 1974; Runco, Johnson, and Bear, 1993; Torrance, 1963). However, very few of the aforementioned studies, offer insights as to the origins of teachers' beliefs and practices (Dawson, 1997). Prior research also fails to explain the paradox between teacher suppositions regarding the importance of promoting creativity when their practices appear inconsistent with their beliefs (Fleith, 2000).

The purpose of our present study is to first examine and describe what teachers believe about creativity being taught in the classroom. Secondly, we hope to reveal teachers' definitions of creativity and their descriptions of creative students. Furthermore, because past research suggests that teachers embrace many misconceptions about creativity (Fleith, 2000; Reid & McGuire, 1995; Slabbert, 1994; Torrance & Safter, 1986) we will gather anecdotal reports from teachers to explore potential factors influencing their beliefs and their classroom practices. It is the aim of the current study to further the understanding of the phenomenon of teachers' conceptions of creativity.

METHOD
Development and
Nature of the
Questionnaire

The development of the questionnaire involved the following steps. The first step was to identify factors and generate statements and questions addressing teachers' conceptions regarding creativity in the classroom. In this study, both close-ended statements and open-ended questions comprised the questionnaire, as well as demographic and background questions.

Seven *close-ended statements* were used to examine participants' beliefs, opinions, and attitudes toward teaching creativity in the regular classroom. Consistent with prior research, (Sheatsley, 1983) a Likert-type scale was used for the close-ended statements. The respondents were asked to indicate whether they *strongly agree, agree, are neutral, disagree, strongly disagree* or *don't know*. The statements utilized in this part of the questionnaire were adopted (with modifications) from several studies (Busse, Dahme, Wagner, & Wiczerkowski, 1986; Fryer & Collings, 1991; Patchett & Gauthier, 1991).

The questionnaire's seven *open-ended questions* were consistent with those questions utilized in prior studies (Fleith, 2000; Hunsaker, 1994; Patchett & Gauthier, 1991). Open-ended questions encourage respondents to express, in their own words, what they feel and believe about a topic. "When you see or hear the word *creativity* what comes to your mind? Discuss what you believe to be the essential features of creativity. Should creativity be enhanced and taught in the regular classroom? Why? What percentage of your students do you consider to be highly creative? List the top five characteristics that you feel best describe the creative student. List activities and strategies you use in the classroom to support creativity".

The remaining questions were demographic in nature. Demographic and background questions were limited to age, gender, grade level currently taught and educational degree.

Once the questionnaire was created, it was presented to university faculty and experts in the field for their review of the content. Suggested modifications were made and in the next phase, the questionnaire was presented to a graduate level research class at the University of Idaho (EDTE 589). Class feedback prompted further modifications regarding layout, questionnaire instructions, and wording. The questionnaire was then administered to a limited number of regular classroom teachers (8 teachers) to determine question clarity and obtain further feedback for refinement.

Participants

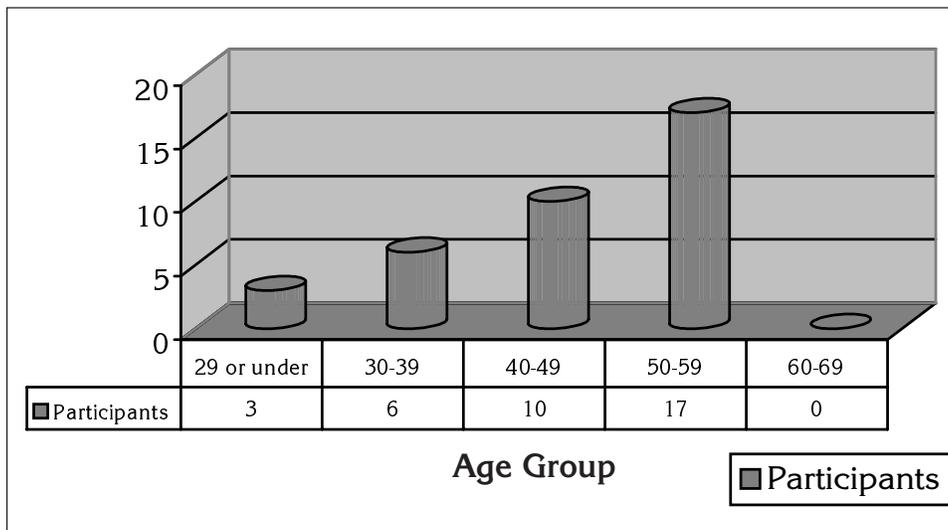
This study took place in a college town in northern Idaho during Fall of 2001. The school district consists of four elementary and two secondary schools. The context of the current study is limited to the four elementary schools in this district. The student/teacher population combined across all elementary schools, are 48 teachers and 1312 students. Data regarding the participating teachers' ages, gender, educational backgrounds, and current grade levels of their students, were also collected and are reported within the Results section.

Procedure Questionnaires were distributed to all of the teachers at the schools. An accompanying letter from their principals encouraged the teachers to participate. Teachers were asked to respond to the questionnaire and return it to their school's office within one week. Thirty-six teachers completed the questionnaire, constituting a 75% return rate.

- Limitation and Delimitation**
1. Participation by the teachers in this study was on a voluntary basis, which could result in a non-representative sample.
 2. This study was limited to 36 elementary classroom teachers. This limits our ability to generalize our findings to a *non-elementary teacher population*.
 3. Our sample constituted 75% of *all* elementary teachers in the district. Because of our limited sample size, examination of teacher characteristics (by clusters or cells) and their purported conceptions of creativity was not statistically possible, but would provide a suggested basis for further research with increased sample sizes.
 4. The complaints by many participating teachers regarding their busy schedules, may have reduced the seriousness and accuracy of their responses.

RESULTS Demographic data on the ages of the participating teachers is reported in Figure 1.

FIGURE 1. Age group of participating teachers (n = 36).



Distributions of grade level being taught, gender, and level of educational background of the participating teachers are summarized in Table 1.

TABLE 1. Characteristics of participating teacher.

| Number of Teachers | Grade Taught | Gender | Degree of Education |
|--------------------|--------------|--------|---------------------|
| 2 | First grade | F | MA |
| 1 | First grade | F | BA |
| 4 | Second grade | F | BA |
| 1 | Second grade | F | MA |
| 3 | Third grade | F | BA |
| 1 | Third grade | F | BA/Graduate Credits |
| 8 | Fourth grade | F | BA |
| 7 | Fifth grade | F | BA |
| 2 | Fifth grade | M | BA |
| 7 | Sixth grade | F | BA |

Analyses of the questionnaire data revealed interesting findings. Participants' responses were classified into three categories: teachers' attitudes toward creativity, teachers' definitions of creativity, and teachers' conceptions of creative students. The authors of this study independently classified the open-ended responses within these categories and collaborated upon areas of ambiguity to ensure inter-rater reliability.

Teachers' attitudes regarding creativity

Teachers responded on a six-point scale to indicate the extent to which they agreed or disagreed with survey statements constructed to examine teachers' attitudes toward creativity in the classroom. The responses are summarized in Table 2.

Generally, teachers revealed positive attitudes and perceptions toward creativity. By combining the percentage of the "strongly agree" and "agree" categories, it is clear that more than 50% of the teachers agreed with six of the seven statements. More than fifty percent of the teachers stated that creativity can be taught to anyone and 81% of the teachers posited that creativity can be developed in the regular classroom. These findings concur with the findings of Fryer and Collings (1991), who revealed that 90% of their study's participants, (British teachers), also believed that creativity could be developed. The current study's findings indicate that teachers, in general, are

TABLE 2. Teachers' attitudes toward creativity (n = 36).

| | Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree | Don't Know |
|---|----------------|-------|---------|----------|-------------------|------------|
| | 1 | 2 | 3 | 4 | 5 | DK |
| Creativity can be taught. | 25% | 27.8% | 36.1% | 5.6% | — | 5.6% |
| Student creativity can be developed in the classroom. | 52.8% | 27.8% | 13.9% | 2.8% | — | 2.8% |
| Teachers should have knowledge about creativity. | 33.3% | 27.8% | 13.9% | 19.4% | — | 5.6% |
| Creativity is essential for enhancing student academic learning in schools. | 44.4% | 33.3% | 16.7% | 5.6% | — | — |
| A regular classroom teacher is responsible for helping students develop creativity. | 19.4% | 13.9% | 38.9% | 22.2% | 5.6% | — |
| The school where I teach places emphasis on fostering student creativity. | 13.9% | 41.7% | 25% | 16.7% | 2.8% | — |
| I employ many methods in my classroom to foster creativity. | 41.7% | 33.3% | 22.2% | — | — | 2.8% |

in favor of integrating strategies to promote creativity in a regular curriculum. Seventy-five percent of the teachers supported this notion, stating that they employ multiple methods in the classroom to foster creativity. Fifty-five percent of the teachers believe that their schools place importance on fostering student creativity.

However, when teachers were questioned about whether it is the regular classroom teacher's responsibility for developing student creativity, the percentage of agreement dropped to 33%. This rejection of responsibility appears incongruous with their beliefs that creativity could be developed in the regular classroom, for if not the regular classroom teacher's responsibility, then whose? This inconsistency is puzzling when teachers' responses show that seventy-eight percent of the teachers state that developing creativity is essential for

enhancing student academic learning in schools, and sixty-one percent of the teachers believe that teachers should have knowledge about creativity. Therefore, teachers believe creativity can be developed in the regular classroom, developing creativity in students is essential for enhancing their academic level, and teachers should have knowledge about creativity, yet they do not feel it is *their* responsibility for developing students' creativity.

To determine whether teachers view creativity as a rare characteristic, the following question was asked: "What percentage of your students appear to demonstrate characteristics of creativity?" Results revealed that approximately 64% of the teachers believed that more than 50% of their students demonstrate creative characteristics. Furthermore, 25% of the teachers believed that *most*, if not all, of their students demonstrate characteristics of creativity. This finding concurs with recent research addressing the notion that creativity exists in every child at different levels and in various styles (Isaksen, Dorval, & Treffinger, 2000). This lends support to the position that if the majority of students demonstrate a wide range of creative characteristics, then there should be services in the regular classroom to enhance these characteristics. The finding that the majority of teachers believed that their students are creative (or at least have some characteristics of creativity), but do not feel responsible for developing their creativity, requires further examination.

Another question addressed in this study is "what is meant by creative characteristics?" Analyses of the open-ended questions may offer possible solutions.

Teachers' definitions
of creativity

Teachers were asked to respond to the following question: "When you see or hear the word *creativity*, what comes to mind?" A wide range of definitions and conceptions regarding creativity emerged, (see Table 3). Teachers' responses to this question were categorized by targeting repeated concepts in their definitions.

As indicated in Table 3, the most frequently occurring definition of creativity is *original ideas*. Eighty eight% of the teachers mentioned that creativity involves original ideas. Starko (2001) confirms that originality is one of the most typical characteristics of creativity reported by researchers. But what do teachers mean by original ideas? Do they mean absolutely new ideas to everyone, or do they mean new for the creator or for that age group of students? Another question requiring further investigation is "if the new idea seems trivial upon first

TABLE 3. Teachers' conceptions of creativity (n = 36).

| Creativity involves: | % Agreement |
|----------------------|-------------|
| Original ideas | 88.23 |
| Aesthetic product | 35.29 |
| Intelligence | 35.29 |
| Linguistic product | 29.41 |
| Imagination | 26.47 |
| Self-expression | 26.47 |
| Problem solving | 20.59 |
| Enjoyment | 20.59 |
| Divergent thinking | 14.71 |
| Inventiveness | 8.82 |
| Creative writing | 8.82 |
| Other aspects | 8.82 |

impression, will it ever be considered a creative production"? The findings of Sternberg and Grigorenko (2000) indicate that many creative ideas seem to be useless and trivial upon first impression, and people usually reject them.

According to Gardner (1993), Russ (1996), and Runco (1994), *divergent thinking* is a key element in *experts'* definitions of creativity. Surprisingly, *divergent thinking* was perceived as a defining attribute by only 14.71% of the teachers in this study. *Teachers do not appear to see the connection between divergent thinking and the production of original ideas.* Given that teachers emphasize convergent thinking in the classroom, these attitudes do not promote environments in which students can respond in a variety of ways. Consistent with prior studies (Fryer & Collings, 1991; Runco, Johnson, & Bear, 1993; Tan, 2000) 35% of the teachers in the present study defined creativity as "artistic production". Some teachers (35%) described creativity as "intelligence" and further defined "intelligent students" as bright and quick to respond. However, Fuchs-Beauchamp, Karnes, and Johnson (1993) argue that there is little relationship between creativity and intelligence. Approximately 29% of the teachers in the present study suggested that creativity involves a linguistic product such as fluent speech or poetry. Surprisingly, only twenty-six percent stated that creativity involves imagination and self-expression

and only nine percent mentioned inventiveness. Yet imagination, self-expression, and inventiveness are considered important elements of creativity (Annarella, 1999). Almost twenty-one of the participants stated that creativity involves problem solving and enjoyment. The remaining teachers mentioned creative writing and other aspects of creativity such as musical ability, playfulness, and independence.

Teachers' perceptions of creative students

Teachers were asked to respond to the following question: "List the top five characteristics that you feel best describe the creative student." A wide range of responses emerged and the ten most frequently mentioned characteristics are summarized in Table 4.

TABLE 4. Ten most frequently reported characteristics of creative students as described by their teachers (by descending rank) (n = 36).

| Characteristics | Rank | Percent of Teachers |
|-----------------------------|------|---------------------|
| Thinks differently | 1 | 92% |
| Imaginative | 2 | 64% |
| Risk Taker | 3 | 61% |
| Artistic | 4 | 58% |
| Has rich vocabulary | 5 | 50% |
| Deep Thinker | 6 | 47% |
| Enthusiastic about learning | 7 | 44% |
| Intelligent | 8 | 27% |
| Sense of Humor | 9 | 22% |
| Curious | 10 | 17% |

The teachers' responses to this question are consistent with their definitions of creativity. "Thinks differently" was ranked as the number one characteristic of creative students. This corresponds to the teachers' most frequent definition of creativity: having *original ideas*. Teachers also frequently mentioned words like *imaginative*, *artistic*, *has rich vocabulary*, and *intelligent* when they were asked to describe creative students, further correlating with their definitions of creativity as pertaining to *aesthetic production*, *intelligent behaviors*, *linguistic production*, and *imagination*.

The majority of studies of addressing creative characteristics stress the relative importance of fluency, flexibility, and elaboration (Isaksen, Dorval, & Treffinger, 2000; Torrance,

1976). Interestingly, teachers failed to mention any of them. Although, the teachers did indicate that creative students are *deep thinkers*, perhaps, equating deep thinking with elaboration.

DISCUSSION The purpose of this study was to address teachers' theoretical and pedagogical conceptions of creativity. The analyses of the teachers' open-ended responses and anecdotal reports provided valuable insights into this complex phenomenon.

Generally, teachers indicated positive attitudes toward teaching for creativity in the classroom. Also, the findings revealed that more than 60% of the teachers believed that more than 50% of their students demonstrated creative characteristics. This was surprising in light of Fryer and Collings' (1991) report that teachers believe creative characteristics to be rare in their students. Teachers report that the majority of students demonstrate a broad array of creative characteristics and therefore, approaches for enhancing creativity should be integrated within the regular classroom curricula.

Barriers To Successful Implementation Of Creativity Enhancing Classroom Practices

On the basis of the findings from the present study, we see the following as problematic with respect to teachers' addressing creativity in the regular classroom:

1. Teachers frequently agree with experts in what they consider to be creative characteristics but do not accurately weight the relative importance of these characteristics. Teachers correctly identify several aspects of creative behaviors similar to the experts, i.e., *original thinking* (originality), *imaginative*, *curious*, *deep thinkers* (problem solvers), and *artistic and linguistic products* (novel products and inventions). What is intriguing is that the teachers assigned different weights of importance to these characteristics than do the experts (see rankings in Table 4).
2. Teachers often confuse characteristics of *gifted high achievers* with creative characteristics. They describe creative students as possessing high intelligence, verbal ability, and intrinsic motivation. When teachers were asked to think of a creative student, they frequently described high achievers who possessed some creative traits. Intelligent people produce high quality products but not necessarily novel ones. Sternberg (2001) posited that creative people are able to produce products that are not only high

in quality but also novel. Additionally, there is evidence that creativity and intelligence (as measured by standardized IQ tests) are not necessarily related (Slabbert, 1994). Therefore, if traits of creativity are confused with traits of high intelligence, a large majority of creative students will be overlooked (Davis & Rimm, 1998). When the teachers said “*enthusiastic about learning*” if they meant meeting the curricular requirements of school, such as doing assignments on time and participating in regular classroom activities, they most likely described high achieving students but not necessarily creative students. Many studies reported that if creative students are bored in the classroom they may not readily participate in classroom activities and then their creative abilities may go unrecognized (Davis, 1999; Standler, 1998; Torrance, 1963).

3. Teachers in the present study are often unaware of the primary defining characteristics of creative students. In this study, no teachers mentioned the ability of students to arrive at multiple solutions for a problem or their ability to approach a task from a variety of directions, both of which are considered to be divergent thinking. Divergent thinking is the primary creative characteristic as defined by experts. Nor did the teachers address creative aspects such as fluency (sheer volume of creative ideas/productions), or flexibility (variety in the types/categories of creative ideas/productions), or elaboration (the ability to develop an existing idea or product to a more evolved or more novel stage).
4. As revealed within the literature, teachers frequently perceive creative student behaviors as “misbehaviors”. Creative students often display characteristics disliked by teachers such as hyperactivity, argumentiveness, selfishness, stubbornness, and independence (Davis, 1999; Torrance, 1963). Davis’ (1999) reported that creative people have varying characteristics and some of them demonstrate positive characteristics that are loved by teachers. Some of them do not. Our teachers, however, when asked to describe creative students, described students with positive traits and the characteristics that are commonly liked by teachers. That suggests that teachers may identify students as creative if they demonstrate likeable characteristics and are high achievers, but overlook creative students who manifest negative behaviors or low achievement scores

5. Our teachers recognized *risk taking* as the third most significant attribute of creative students. Findings of research in the field of creativity show that there is a strong relationship between risk-taking and creativity (Glover, 1977). Creative individuals have less fear than the average person of making mistakes, of social disapproval, or of “the anxiety of separateness” (Dellas & Gaier, 1973). The teachers ranked curiosity low on the list of creative characteristics, yet researchers consider curiosity one of the most important traits of creative students (Davis, 1999; Singh, 1987). Torrance (1963) insists that in order for students to think creatively, they need to be independent in judgment and to be courageous. To think differently involves independence in thinking but not in judgment. Thinking independently does not assure that a student is able to make judgments autonomously and it takes courage to present and defend their creative ideas (Torrance, 1963). Unfortunately, not one of the participating teachers mentioned these characteristics. This finding is consistent with Stoycheva’s (1996) findings regarding the tendency of Bulgarian teachers to devalue independence in judgments.

Failure to place curiosity, independence of judgment, and courage among the most common characteristics of creative students is additional evidence that teachers recognize only the creative students who demonstrate personalities that are appreciated by teachers. Students who display the above characteristics often challenge the teachers’ authority, which may cause disturbance to the classroom organization.

A noteworthy finding is that when teachers were asked to envision a creative child that *they have taught*, they mentioned both positive and negative traits. Yet, when describing creative children in general, they mentioned only positive traits. This finding confirms what Dawson (1997) recommends regarding the importance of asking teachers to envision an actual student instead of asking about the characteristics of creative students in general.

6. A less favorable outcome was that the majority of participants stated that regular classroom teachers were not responsible for helping students develop their creativity. In the remaining portion of this paper we hope to offer possible explanations as to why teachers feel that creativity should be taught or developed yet maintain inconsistent beliefs and practices regarding teacher responsibility for achieving that outcome.

Question interpretation. While reviewing the teachers' responses to the questionnaire, we found that although more than fifty percent of the teachers agreed with the statement that creativity could be *taught*, the percentage of agreement increased to eighty percent when the statement included the word *developed*. It appears teachers believe that if creativity exists as a trait within the student, then it can be *developed* but *teaching* creativity where there is none, is not as easily accomplished. Teachers' concerns about teaching creativity correspond to their beliefs that teachers are not responsible for helping students develop their creativity. It should be noted however, that recent research disagrees with our teachers' efficacy toward teaching creativity (Amabile, 1996; Annarella, 1999; Fleith, 1999; Karnes & Bean, 2001; Plucker & Nowak, 2001; Robinson, 2001).

Relative importance of creativity to academic achievement. Although most experts' define creative products as novel and appropriate, (Sternberg & Lubart, 1999) none of our teachers mentioned appropriateness or usefulness in their views of creative production. This oversight may be an indication that teachers view creativity as an "interesting process" but not necessarily a "beneficial product". When faced with a heavy academic burden addressing creativity assumes lower priority. This interpretation finds support in this study. Teachers mentioned that "they could not provide opportunities for creative activity because they thought that academic responsibilities should be their highest consideration. Teachers' open-ended responses addressing the lack of creative opportunities present in their classrooms suggested that they would "like to help students develop creativity, but they were already overwhelmed with other more pressing responsibilities" rather than it being the case of not valuing creativity in the classroom. It appears that teachers generally place greater emphasis on covering course content and ensuring that their students can provide accurate *convergent responses versus divergent solutions*. This suggests that teachers view the enhancement of creative thinking as something *additional*, something segregated from the usual curricula. Some of the teachers mentioned that creative activities "might bring some fun to the class but not many learning opportunities". Suggestions for future research would include examination of the administrative/parental/political pressures felt by teachers to address issues of accountability and demands for increased standardized test scores.

Definitions of creativity shift responsibility. The findings from our study replicate those reported by recent research regarding the elements of creativity (Fryer and Collings, 1991; Isaksen, Dorval, and Treffinger, 2000; Slabbert, 1994; Starko, 2001; Sternberg, 2001). Creativity involves original ideas, imagination, self-expression, invention, aesthetic products, and linguistic products. This may provide some insights as to why teachers feel that enhancing creativity is not necessarily one of their responsibilities. Thirty-five percent of the teachers associated creativity with “art products.” Conceiving of artistic products as *one form* of creative production is correct but many teachers’ anecdotal discussions and examples were *limited* to describing art products and artistic students. Art production was the second most frequently mentioned characteristic by teachers when defining creativity and they ranked *artistic* as the fourth most important trait of creative students. This concurs with the findings of Isaksen, Dorval, and Treffinger (2000) who stated that it is common for the public to limit their views of creativity to art. Art products are seen as important elements of creativity by American teachers (Runco, Johnson, and Bear, 1993) and German teachers (Busse, Dahme, Wagner, and Wiczerkowski, 1986) and this finding was also reported in Brazil (Alencar, 1989) and Singapore (Tan, 2000). Limiting creativity to art products may be another reason for the regular classroom teacher to ignore responsibility for promoting creative behavior, as it should be the responsibility of the art instructor. Alencar (1989) supports this explanation. Other creativity characteristics described by teachers in our study may be related to a reluctance to assume responsibility. *Rich vocabularies, enthusiasm about learning and high IQ* are all indicators of high academic achievers and gifted and talented students. Many gifted and talented students also possess creative abilities. Perhaps, the instruction of creative students is perceived as the responsibility of the G/T facilitator. This notion of “whose jurisdiction” is a topic for future research.

Conclusions

One last point for consideration addresses the adequacy of the regular classroom teacher to recognize and identify creative students, and/or to teach in ways designed to promote creativity in all students. Pre-service training programs do little to broaden knowledge of the phenomenon of creativity. Commercial programs designed to promote creative thinking and problem solving are not part of most pre-service education programs and are most often acquired through professional development programs. Teachers feel ill-prepared to

foster creativity when they do not know how to define creativity, recognize creativity, appreciate creative behaviors, or are overburdened with the demands of teaching content driven curricula toward high stakes testing. Steps must be taken to ensure that adequate training and resources are provided for teachers at all levels of teacher preparation and practice, so that creative and regular students alike will have their creative talents actualized.

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