New Curriculum reform implementation and the transformation of educational beliefs, practices and structures: A case study of Gansu province

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ABSTRACT

Response to the implementation of the New Curriculum reforms varies by regional context. A study of the effects of reform implementation on basic education in rural Gansu contributes to understandings of the reforms in resource constrained environments in China. Drawing on rich data from linked teacher, principal, student and county administrator questionnaires available in three waves of the Gansu Survey of Children and Families, this paper examines relationships between New Curriculum reform implementation and the transformation of educational beliefs, practices, structures and student outcomes in primary and junior middle schools in rural Gansu.

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INTRODUCTION

The New Curriculum reforms have aimed at changes in educational beliefs, practices and structures with the goal of enhancing student well-being and all-round development (Guan & Meng, 2007; Shi & Liu, 2004). Very little rigorous evaluation data is, as yet, available to determine whether or not the reforms have succeeded in achieving these aims (Dello-Iacovo, 2009). What attitudes do teachers and principals have about the New Curriculum reforms? Have beliefs about the goals of education been affected by the reforms? What do classroom practices look like after several years of reform implementation? To what extent have teachers received New Curriculum training and professional development? How has the structure and production of curriculum changed? What are the main challenges to successful implementation of the reforms? Finally, and most importantly, what are the student outcomes of reform implementation?

In this paper, I draw on student, teacher, principal and county level data from three waves of the Gansu Survey of Children and Families to examine the beliefs,

practices, structures and student outcomes during the period of New Curriculum reform implementation in primary and junior middle schools in rural Gansu province.

BELIEFS

Underlying the curriculum reforms is a collection of principles based on educational philosophy incorporated under the concept of *suzhi jiaoyu,* commonly translated as "quality education"(Dello-Iacovo, 2009; Guan & Meng, 2007; Murphy, 2004; Woronov, 2009). *Suzhi jiaoyu* is conceived of in opposition to *yingshi jiaoyu* or "examination oriented education." Educators have been exhorted to replace transmissional, text-driven, teacher-dominated, examination-centered and mimetic notions of education with more progressive notions that are aimed at the development of the whole child--moral, intellectual, physical, and aesthetic capacities as well as the ability to apply knowledge in practice (*de zhi ti mei lao)* (Dello-Iacovo, 2009; 1992; State Council, 1999). A transformation in beliefs about education (*jiaoyu linian)* has been the foundation of the New Curriculum reforms:

> Thought and ideas are the forerunners to behavior. The renewal and transformation of educational concepts is a prerequisite to the implementation of quality education (*suzhi jiaoyu).* (People's Republic of China Ministry of Education, 2002, p. 3)

What do the teachers and principals in Gansu province think about the reforms? To what extent do they buy in to the reform ideals? Have views about the goals of education been shifting during the period of reform implementation from more traditional goals to more progressive goals of education?

CLASSROOM PRACTICES

The disconnect been policy reform efforts and teachers' actual classroom practices in the United States has been described in numerous scholarly works (Bidwell, 1965; Cuban, 1990; Lortie, 1975; Meyer & Rowan, 1978; Weick, 1976). Studies of reform implementation in China have also frequently found that teachers are simply continuing to teach as they did before (Dello-Iacovo, 2009). The New Curriculum reforms have aimed to transform teaching practices from the traditional examination oriented approaches of rote memorization, lecture and drill to more student centered approaches where students have space to develop their creativity, develop and express their ideas, collaborate with each other, learn by doing and where holistic development is emphasized (Dello-Iacovo, 2009). New components of the curriculum include inquiry based learning, community service, and hands on activities (Zhu, 2007). The aim of these activities has been to create a closer link between education and society, and education and the students' learning needs (Zhu, 2007). The reforms have also hoped to reduce the amount of homework (Dello-Iacovo, 2009); eliminate unnecessarily difficult and obsolete content and replace the content with material relevant to students' lives (Huang, 2004); alleviate psychological pressure; make learning more enjoyable and raise students' level of engagement in relaxed learning environments. So far, however, there have been reports in some places that, contrary to the very aims of the reforms, student homework burdens have actually increased in order to compensate for a perception that the curriculum is becoming too easy (Dello-Iacovo, 2009).

Have the New Curriculum reforms been successful in penetrating to the level of classroom practice in primary and junior middle schools in rural Gansu?

STRUCTURES

Examinations are generally regarded as the main barrier to curriculum reform implementation (Dello-Iacovo, 2009; Ryan, Kang, Mitchell, & Erickson, 2009) as well as the accompanying strong cultural attitudes "in favor of more rigorous, academic, and examination oriented education" (Dello-Iacovo, 2009; Ryan et al., 2009). Access to resources is also an important challenge in all aspects of curriculum reform implementation (Ryan et al., 2009). Other challenges include large class sizes and lack of professional support for teachers (Ryan et al., 2009).

An important focus of this round of education reforms has been training and professional development for teachers. Dello-Iacovo (2009) cites reports that New Curriculum teacher training has been inadequate and divorced from reality In the ideal, the Chinese New Curriculum reforms are an example of Fullan's (1991) *mutual adaptation* approach to reform where teachers and principals participate fully in making concrete decisions about what is most useful to their students, and thus make appropriate adaptations to the curriculum (Xu, 2009). In this approach to curriculum reform, the principles outlined in the national policy guidelines have influence over practice but the practitioners are also active agents in the process of translating the principles into new sets of teaching and learning practices at the classroom level (Xu, 2009). Xu (2009) argues that while teachers know the specifics of their classrooms and students and therefore do not need to be given solutions, they do need support to develop solutions of

their own. Access to high quality programs of professional development is needed to support teachers to reinvent themselves professionally in order to cope with the transformation in the role of the teacher that is called for by the reforms.

Another important component of the New Curriculum reforms has been the diversification of agencies for the development of curricular content and materials (Guan & Meng, 2007). The People's Education Press (PEP) in Beijing is the publishing house directly under the auspices of the Ministry of Education and, up until the year 2000, it had been the sole producer of textbooks for basic education across the nation since 1950 (People's Education Press, 2007). Now, however, non-state publishing houses free to develop curriculum materials in line with the curricular standards (Dello-Iacovo, 2009; Zhou, 2008) and schools are to be able to choose the versions of the textbook they would like to use (Guan & Meng, 2007). Furthermore, the national curriculum is being supplemented with regional and school based curricula (Guan & Meng, 2007; Huang, 2004; Zhu, 2007). With greater flexibility in the design of the curriculum, diverse local cultures as well as rural knowledge can also be featured in the curriculum. More participants can engage in curriculum development including not only the teachers but also the students and other members of society (Zhu, 2007). In order for teachers and schools to be involved in development of school based curricula, however, they need to have access to resources: libraries, reference materials, computers that are connected to the internet, and the know-how and capacity to conduct internet research.

What do teachers and principals perceive to be the major barriers to reform implementation in rural Gansu? Do teachers in rural Gansu have ample opportunities for

professional development to cope with the New Curriculum reforms? To what extent has diversification and decentralization of the curriculum occurred in rural Gansu?

STUDENT OUTCOMES

The eventual aim of the reforms is, of course, to effect a change in student outcomes. In current educational policy discourse in China, and in nations across East Asia, it is argued that examination-oriented teaching practices contribute to undesirable characteristics in students such as passivity, lack of capacity to apply knowledge in practice, low levels of educational engagement and a lack of well-roundedness (Amano & Poole, 2005; Kwang & Smith, 2004; Ministry of Education, 2002; Mok & Chan, 2002; Noah & Eckstein, 1989). Furthermore, critics claim that pressure to compete in high stakes examinations has even led to extreme instances of violence and a rise in the number of suicides among young people (Jiang, 2000; Kim & Dembo, 2000; Lee & Larson, 1999; Sorensen, 1994; Zeng, 1996). The New Curriculum shifts the emphasis away from the academic outcomes of education to other more intangible outcomes of education such as students' capacities for creativity, innovation, expression, cooperation, application, curiosity and love of learning (Dello-Iacovo, 2009). The hope is that the stresses of the examination culture will be somewhat mitigated so that children will be happier more well-adjusted and well-rounded individuals. Is there any evidence of a shift in student psychosocial outcomes during the period of reform implementation in Gansu province?

GANSU CONTEXT

Gansu is one of the poorest provinces in China (Woo & Bao, 2003). Furthermore, the majority of primary and middle schools in Gansu are in rural areas (Robinson & Yi, 2009). Gansu has faced several challenges in educational development including low levels of achievement, high levels of repetition and drop out, low rates of compulsory education completion and poor school conditions (Robinson & Yi, 2009). A case study of curriculum reform in rural primary and junior middle schools in Gansu province allows for a picture of implementation status in isolated and resource constrained environments in China. While it could be argued that implementation of curricular reform in Gansu might be more challenging than in the more prosperous urban political and financial centers there are also reasons to believe that curricular reform may actually be easier in Gansu. Teachers and principals in more remote regions of the nation may have higher levels of receptivity. Furthermore, as part of the "Develop the West" campaign, additional resources of the central government have been dedicated to educational development and Gansu has received intensive support from international projects most notably the UK Gansu Basic Education Project (Brock, 2009) and the EU-Gansu Basic Education Project (Robinson & Yi, 2009). These projects have provided strong support for teacher professional development and school development thus potentially enhancing the capacity for effective reform implementation.

DATA AND METHODS

In this paper, I draw on quantitative survey data from waves 1, 2 and 3 of the Gansu Survey of Children and Families (GSCF) to investigate educational beliefs, practices; structures and student outcomes in the context of curriculum reform

implementation in primary and junior middle schools. The GSCF is a unique data set providing a rich source of information about children's educational contexts and outcomes. The first wave of the data was collected in the year 2000. It was based on a stratified systematic sample of 2000 children aged 9-14 living in 100 villages in 20 rural counties in Gansu along. Wave 2, collected in 2004, followed the original children and added their oldest younger sibling to the sample. Wave 3, collected in 2007, is a new cohort of 9-14 year olds and this enables comparison of 2000 and 2007 cohorts. In all three waves, a census of all schools and teachers in the sample villages were also collected as an add-on, stand-alone component to the study. Table 1 shows the sample sizes for each of the datasets that are used for this analysis.

The three waves of the GSCF were collected in 2000 just before experimental implementation of the reforms began; 2004 in the early stages of reform implementation; and finally in 2007 after universal implementation in basic education was expected to be complete. Figure 1 shows the year that teachers in the GSCF sample first started implementing the New Curriculum reforms. The largest number of teachers began implementation in 2003.

[Table 1 and Figure 1 about here.]

DATA ANALYSIS

This paper is based on multiple cross sectional analyses of items from the teacher, principal, student and county administrator questionnaires which each contain a variety of measures about the New Curriculum reform implementation.

Beliefs

I analyze the educational beliefs of teachers and principals drawing on several items in the teacher and principal questionnaires including measures of opinions of new reforms, and teachers' and principals' reports in 2004 and 2007 of their views on the most important, second most important and third most important goals of education.

Practices

Teachers and students were asked to report on the frequency of traditional teaching methods such as lecture, drill, choral response and also the frequency of teaching methods in line with the New Curriculum reforms such as group work, inquiry based learning, discussion, student questions and hands on activities. Additional items in the student questionnaires include reports of teachers' use of praise and encouragement, teachers' fairness, homework load, and whether or not student questions are encouraged. Teachers were asked about the degree to which their teaching practices and methods of student evaluation had shifted during the period of reform implementation.

Structures

Teachers' views about major barriers to implementation were analyzed along with measures of teachers' participation in New Curriculum trainings, and professional learning communities. County administrators gave information about textbook use and the principal questionnaire contains items about the use regional and school based curricula.

Student psychosocial outcomes

Items measuring various student psychosocial outcomes are presented such as students' confidence that if they study hard they will be able to do well in school, happiness at school, interest in school, and the sense that teachers like them.

RESULTS

Beliefs

1. Opinions about the New Curriculum

There was some degree of ambivalence about the New Curriculum reforms among the teachers in our sample (see Table 2.) A majority of teachers held positive attitudes towards the New Curriculum reforms. However, the popularity of the New Curriculum reforms appears to have declined from 2004 to 2007. In 2004, when implementation of the reforms was still new, 87 percent of teachers felt that the New Curriculum reforms reflected their teaching ideals, but this proportion dropped to only 66 percent in 2007. There was also a sharp decline in the number of teachers who felt that the New Curriculum reforms were in line with their teaching style; only 56 percent in 2007 as compared with 80 percent in 2004.

There was also ambivalence about the effects of the reforms on students. Most teachers agreed with statements that the reforms had raised student interest and engaged students in more meaningful learning activities but the proportion of teachers holding these views dropped from 93 percent on both of these measures in 2004 to 82 and 83 percent respectively in 2007. Substantial numbers of teachers (27 percent in 2007) also had concerns about the New Curriculum reforms. 21 percent of teachers in both 2004 and 2007 felt that the more relaxed learning environments propounded by the reforms would negatively impact academic outcomes and 32 percent of teachers interviewed in wave 3 believed that the New Curriculum reforms would exacerbate the achievement gap in the college entrance examination results.

[Table 2 about here.]

2. Goals of education

Teachers and principals were asked to rank the most important, second most important and third most important goals of education from a set of nine choices in 2004 and ten choices in 2007. The choices were as follows: 1) development of reading, writing, and arithmetic skills; 2) preparing student to pass exams; 3) development of work skills for future employment; 4) cultivation of good habits and discipline; 5) personal development; 6) citizenship and moral values; 7) social and economic development of the community; 8) the renaissance of the Chinese people; 9) thinking skills and creativity; 10) knowledge transmission. Analysis of their responses reveals an interesting pattern (See figure 2). The two most commonly selected goals of teachers in 2004 were, on the one hand, "reading, writing and arithmetic" reflecting the more traditional goals of education; and thinking skills and creativity on the other hand, reflecting the New Curriculum emphasis. In 2004, citizenship and moral values came in third place as an important goal of education. In 2007, fewer teachers selected reading, writing and arithmetic as the most important goal of education (only 13 percent in 2007 as compared with 24 percent in 2004) but the percentage of teachers choosing creativity and thinking skills as the most important goal of education also dropped dramatically (only 18 percent in 2007 as compared with 30 percent in 2004). The new favorite of teachers in 2007 was "good habits and discipline" with 25 percent of teachers choosing this as the most important goal of education.

[Figure 2 about here.]

A slightly different pattern shows up in the ranking of the educational goals of principals (see figure 3). In 2004, training in the basic skills of reading, writing and arithmetic was by far the most important goal selected by principals with 32 percent selecting this option as compared with 20 percent for "citizenship and moral values" and 19 percent for "thinking skills and creativity". A clear shift is evident in principals' goals in 2007 with only 9 percent selecting skills in reading, writing and arithmetic as the most important educational goal. Interestingly, "good habits and discipline" has now taken on more importance and is tied for first place with national development at 19 percent. "Thinking skills and creativity" is chosen as the most important goal by 17 percent of principals.

[Figure 3 about here.]

The increasing importance, for both teachers and principals, of the educational goal "good habits and discipline" in 2007 is interesting, perhaps indicating a sentiment that, in the context of the New Curriculum emphasis on relaxed educational environments, this goal of education has been overlooked. Preparing for the exams is still mentioned as an important educational goal by both teachers and principals especially in the second and third rank of importance. This is in keeping with the reality that the examinations still exert an important influence on educational systems and practices.

Classroom practices

Teacher and student reports of the frequency of use of teaching methods were analyzed to gain insight into the extent to which classroom practices reflect the New Curriculum ideals. Figure 4 compares 2007 teacher and student reports of frequently

used teaching methods. Even in the context of the New Curriculum reforms teachers report frequent use of methods commonly considered to be consistent with traditional examination oriented education. 72 percent of teachers report frequent use of lecture and 61 percent of teachers report frequent use of memorization and recitation. Less than half of all teachers, however, report frequent use of drill and choral response. A vast majority of teachers also reported frequent use of several teaching methods in line with the reforms such as open-ended questions (79 percent), class discussion (89 percent), group work (79 percent), and opportunities for students to express their own ideas and opinions (87 percent). A majority of teachers also report an increase since the start of reform implementation in methods that are promoted by the reforms (see Figure 5) such as class discussion, small group work, inquiry based learning, applied activities, role play, use of multimedia, student expression of ideas and opinions, teacher demonstrations, games, and hands on activities.

[Figures 4 and 5 about here.]

Teacher self-reports of classroom practice differ markedly from student reports of teachers' classroom practice. Figure 4 shows that more students than teachers report frequent use of memorization and recitation-- 77 percent of students as opposed to 61 percent of teachers-- and substantially fewer students than teachers report frequent use of all practices promoted by the reforms. It is possible that teacher self-reports of their classroom practices are biased, but whatever the case these results indicate a widespread familiarity with the types of methods that are currently advocated by the New Curriculum reforms.

Other items on the student questionnaire also ask about classroom practices. Table 3 shows comparisons of the Wave 1 (year 2000) cohort with the Wave 3 (year 2007) new cohort of students. A few marked differences stand out. Fewer students in 2007 agree with the statement that teachers assign a lot of homework than students in the year 2000; 47 percent as compared with 62 percent. This corresponds to the goals of the New Curriculum reforms for reducing the students' stress from "study burden". Also, 80 percent of students in 2007 agree that there is lively classroom discussion as compared with 73 percent in 2000. Based on this analysis of the student data, teachers also appear to be lecturing less. Only 63 percent of students in 2007 report that "in class, teachers generally talk while students listen" as compared with 80 percent of students agreeing with such a statement in 2000 before curriculum reform implementation had occurred.

[Table 3 about here.]

Structures

1. Curriculum

All 20 of the county level administrators in our sample report that they had begun implementation of the New Curriculum reforms by 2005 as mandated by the policy (see Table 4). 7 counties began in 2002, 9 in 2003 and 2 each in 2004 and 2005. Production of curriculum materials may have diversified but decisions about which curriculum materials are going to be used still appear to be largely centralized and made at levels far above the teachers. 14 out of the 20 county administrators report that the version of the textbook that will be used is decided by the provincial educational department, a further 3 report that it is decided by the city government. The most popular version of the textbook is still the People's Education Press version (see Figure 6). In general, the

Chinese and Math curricula that are used in each county are produced by the same publishing house. A few counties also use the version of the textbooks produced by Beijing Normal University (*Beishida ban)* and one or two have experimented with the Jiangsu Education Press version. For example, 16 county level administrators report that grade 5 is using the PEP version for Chinese, 3 report use of the Beijing Normal University version and only 1 reports use of the Jiangsu Education Press version.

[Table 4 and Figure 6 about here.]

With regard to the implementation of regional and school based curricula, while 98 percent of principals report that their schools have started New Curriculum implementation, only 53 percent of principals report that their school has a school based curriculum, and even fewer report use of a regional curriculum (36 percent).

2. Professional development

One of the identified prerequisites for successful implementation of the New Curriculum reforms has been ample access to teacher professional development in order to raise teacher quality. Table 5 shows teacher reports of participation in teacher training, professional development and the professional learning communities associate with teaching and research activities. 87 percent of teachers report that they have already taken part in New Curriculum training since the start of reform implementation. A diverse array of trainings is available for rural primary and junior middle school teachers in Gansu from the school-level all the way up to the national level. Training is most commonly organized by the county with 63 percent of teachers reporting they have received training at the county level. Over half of teachers (53 percent) report receiving

training at the school level. Furthermore, significant numbers of teachers have taken part in trainings organized at the township level (38 percent) and at the city level (30 percent). 11 percent were trained at the provincial level and 1 percent of rural teachers in Gansu have had the opportunity to be trained at the national level which is equivalent to 26 teachers in our sample of 2,292.

On average, teachers have attended 81 hours in total of New Curriculum training since the start of the reform implementation. In addition, teachers participate regularly in teaching and research group (*jiaoyanzu)* activities which can potentially provide important support for the implementation of new methods and the meeting of ensuing challenges. Most notably, 96 percent of teachers have participated in peer observation activities at their school in the past semester. On average each teacher participates in peer observations 12 times per semester. Such activities create ample opportunity for teachers to interact with each other and share experiences and support for reform implementation.

3. Barriers to implementation

There is a some degree of cynicism about the possibility of effectively implementing the reforms in the face of the pressure from the examinations. 47 percent of teachers interviewed in 2007 agreed with the statement that "it is impossible to implement the New Curriculum reform teaching methods because of the pressure from the examinations" (See Table 2). Exam pressure was the most popular choice selected by over 25 percent of teachers in 2007 as the "most important barrier to successful reform implementation" (see Figure 7) although class size and inadequate resources were close behind as important barriers.

[Figure 7 about here.]

One characteristic that is encouraging in terms of reform implementation is that, in 2007, 81 percent of teachers reported that they had support from upper level administrators to use innovative methods in teaching (see Table 6). However, only 54 percent of teachers feel that they have a great deal of autonomy to teach as they like, which may limit their ability to experiment freely with new methods. Furthermore, only 22 percent of teachers report having ample access to teaching supplies and only 26 percent of teachers feel they have ample access to reference materials, both key resources for successful implementation of the reforms. Internet access is also a limited resource. While 92 percent of principals report that the school has computers, only 49 percent report that the computers have access to the internet (See Table 7).

[Tables 6 and 7 about here.]

Student psychosocial outcomes

Based on analysis of student questionnaire data from Waves 1 and 3, there is some evidence that students are feeling less bored in school with only 15 percent reporting boredom in 2007 compared with 27 percent of students reporting feelings of boredom in the year 2000 (See Table 8). Slightly more students report feeling that the teachers like them in 2007 than in 2000, 85 percent as compared with 80 percent. As mentioned above, fewer students in 2007 report that the teacher assigns a lot of homework as compared with student reports in 2004. Other than these findings, students' confidence, happiness in school, and excitement about learning new things appear to have remained relatively constant over the last few years during the time of curriculum reform implementation.

[Table 8 about here.]

CONCLUSIONS AND DISCUSSION

Overall, results suggest that the New Curriculum reform implementation has had some impact on beliefs, practices, structures and student outcomes in rural primary and junior middle schools in Gansu province. However, this impact has been limited in important ways.

Enthusiasm for the reforms seems to have been strongest in the earliest years of the reforms but may have been waning in more recent years. There has been a decline in teachers' sense that the New Curriculum reforms are in line with their teaching style and ideals and a decrease in positive attitudes about the effects of the reforms on students. These shifts back and forth are in line with Cuban's (1990) analysis of waves in sentiments in reform implementation. Trends in educators' views of the most important goal of education also suggest a shift away from dominant New Curriculum ideologies. In the early years of reform "creativity and thinking skills" was the most important goal of teachers and principals but, after several years of reform implementation, this was overtaken by "good habits and discipline." This may indicate attitudes that the New Curriculum reforms were having a negative impact on the traditional virtues of discipline and order so conducive to examination preparation.

Cuban (1990) also theorized that, while sentiments and policies swing back and forth between extremes like a pendulum, classroom practices remain essentially constant. Drawing on the data from the GSCF, teachers tend to report a shift in classroom practice to more frequent use of methods such as group work, role play, inquiry-based learning

and hands on activities. In addition, fewer students report that teachers assign a lot of homework and fewer students report that classes are dominated by teacher talk. More students also report active classroom discussion. Overall, then, there is some evidence to suggest shifts in teacher behaviors and classroom practices since the start of reform implementation.

As for the structure of the curriculum, selection of textbook materials appears to still be largely centralized, at least at the provincial level, and the well-established People's Education Press materials are by far still the most popular choice for rural primary and middle schools in Gansu province. Around half of principals report that their school has a school-based curriculum but the nature of what these principals mean by the term "school-based curriculum" may vary substantially. Far fewer principals report use of a regional curriculum. These results suggest that while space has been opened up for decentralization, localization and diversification of the curriculum and there is evidence of some activity in this direction, widespread change has yet to occur in basic education in rural Gansu.

From the point of view of the teachers, there are several important structural barriers to reform implementation, including pressure from the examinations, inadequate resources and large class sizes. An increase in the use of technology in education has been highlighted as an important component of the reforms. While many schools have computers, slightly less than half of these can access the internet. Lacking access to the internet strongly curtails the power of the computers for providing teachers and students in rural primary and junior middle schools with access to information and reference materials to support inquiry learning and other goals of education.

An important focus of these reforms has been the provision, on a large scale, of programs of professional development for teachers. In my sample, a majority of primary and junior middle school teachers in rural Gansu reported participation in various modes of teacher training. Most of this training was offered at the county level but a significant proportion of training has also been organized at the school level. In addition, there is evidence of active professional learning communities across rural schools in Gansu through the system of the *jiaoyan* activities. More qualitative work will be helpful to understand the nature of these opportunities for professional development and the professional learning communities and the extent to which such programs empower teachers to become active agents in the curriculum reform process and implementation.

The ultimate goal of the reforms has been to effect a change in the students; to cultivate new capacities and to increase student engagement and love of learning. With regard to student engagement, far fewer students report feeling bored at school in 2007 than in 2000. If the New Curriculum reforms have really succeeded in raising the level of students' interest in schooling this can certainly be considered an important success of the reforms.

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Table 1. Sample sizes for the datasets from three waves of the Gansu Survey of Children and Families that are used in this paper

Wave 1 2000
2,000 students
Wave 2 2004
1,604 teachers
140 principals
Wave 3 2007
1,387 students
2,292 teachers
192 principals
20 county administrators

Figure 1. Number of teachers beginning implementation of New Curriculum each year from 2001-2007

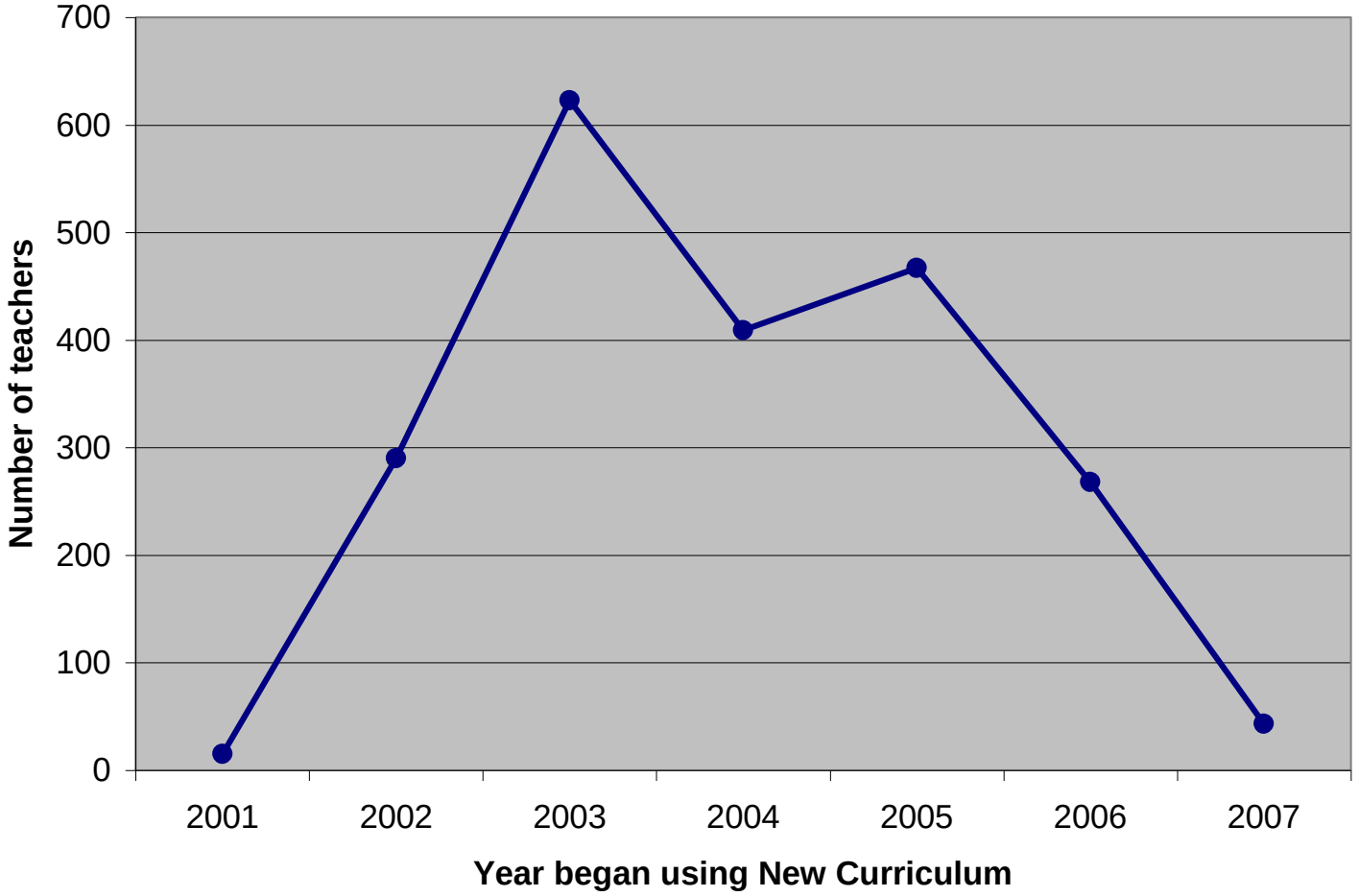

Table 2. Teachers' opinions about the New Curriculum reforms in 2004 and 2007

	2004 N=1,604 Percent agree	*2007* N=2,292 Percent agree
The new curriculum reforms reflect my own ideas about teaching	87	66
The New Curriculum teaching methods are in line with my own teaching style	80	56
The New Curriculum reforms negate my former teaching practices	20	13
I feel psychological pressure as a result of the New Curriculum reform implementation	--	34
I have concerns about the New Curriculum reform implementation	-	27
It is impossible to implement the New Curriculum reform teaching methods because of the pressure from the examinations	--	47
The New Curriculum content is too shallow	--	16
The New Curriculum reforms will exacerbate the achievement gap	--	32
The New Curriculum has raised student interest in learning activities	93	82
The New Curriculum reforms enable students to participate in more meaningful learning activities	93	83
Relaxed egalitarian learning environments will not be good for students' academic progress	21	21
The learning methods advocated by the New Curriculum reforms will have negative effects on students	23	14

Figure 2. Teachers ranking of most important, second most important and third most important educational goals in 2004 and 2007

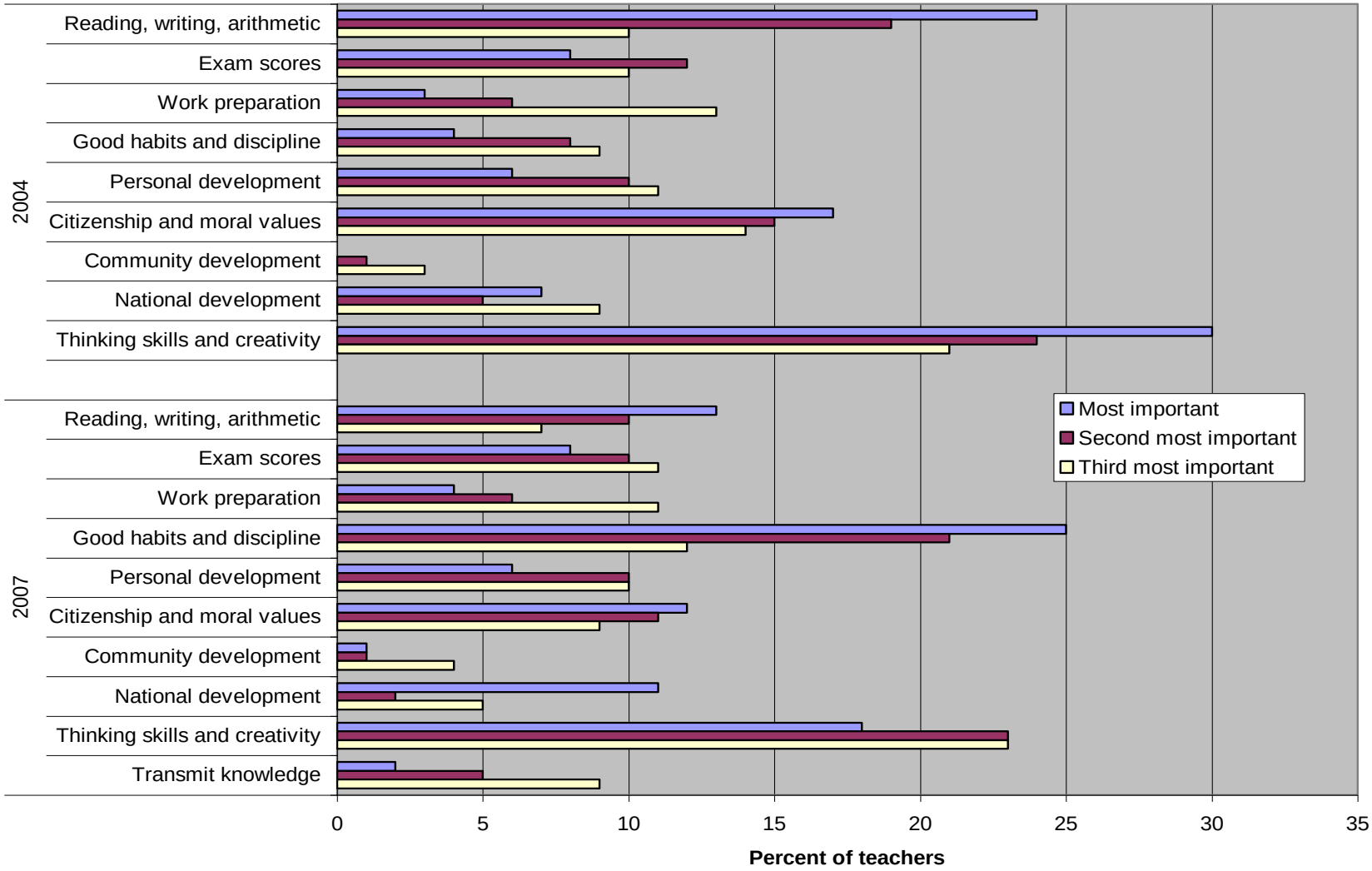

Figure 3. Principals' ranking of most important, second most important and third most important educational goals in 2004 and 2007

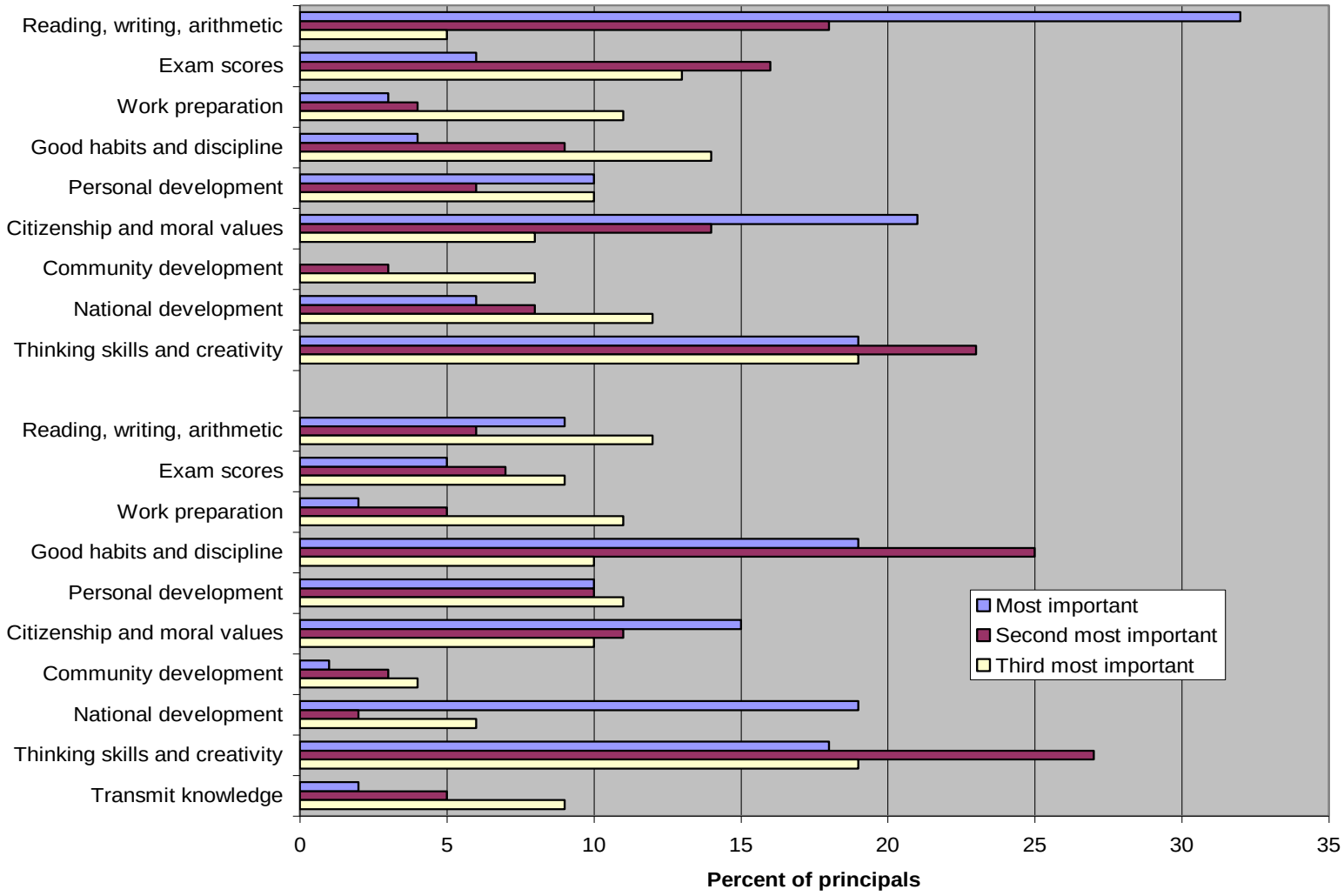

Figure 4. 2007 teacher and student reports of frequent use of teaching methods in the classroom

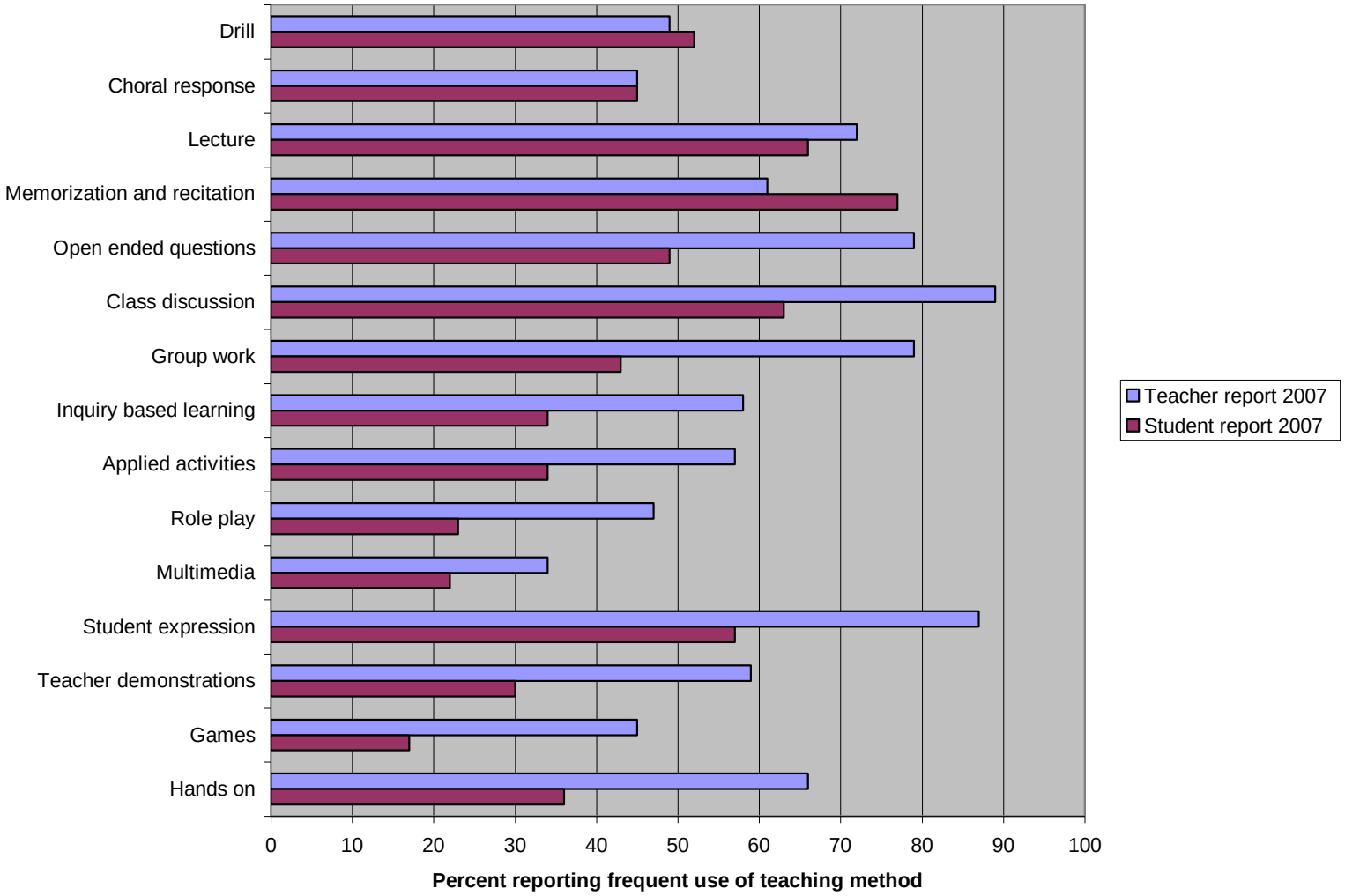

Figure 5. Teacher reports of the methods that they use that have increased, stayed the same or decreased after the implementation of New Curriculum reforms

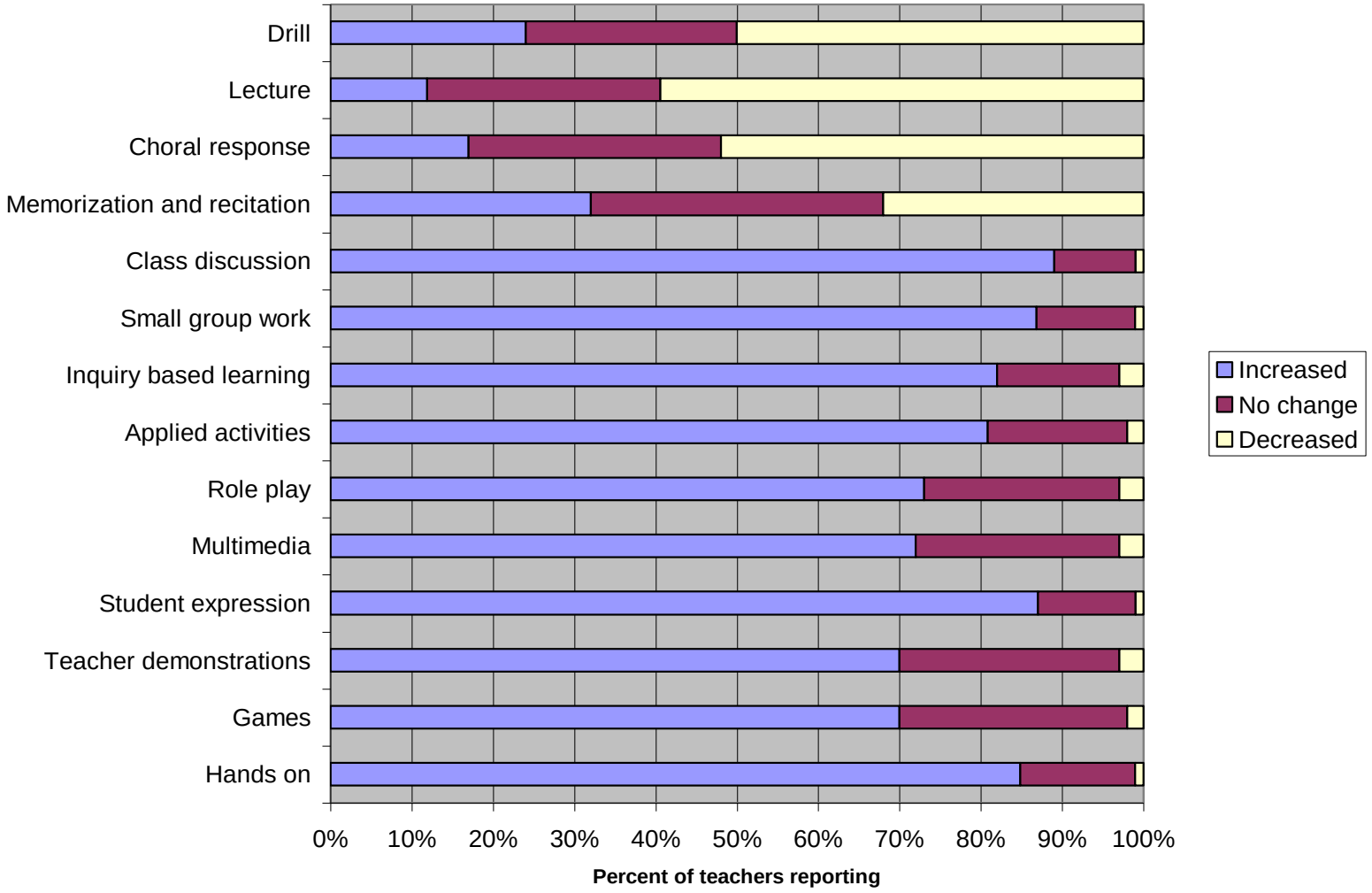

Table 3. Percent of students who agree with statements about their teachers' use of various classroom practices in 2000 and 2007

	2000 N=1,986 Percent agree	*2007* N=1,384 Percent agree
If I work hard the teacher will praise me	82	77
Teacher cares	93	94
Teacher is fair	88	90
Lots of homework	62	47
Active classroom discussion	73	80
Teacher talks, students listen	80	63
Lessons are easy	54	49
Student questions encouraged	90	91

Table 4. 2007 county administrator reports of curriculum reform implementation status (N=20)

	Number of counties
Year the curriculum reforms began	7
2002	9
2003	2
2004	2
2005	
Who decides the textbook versions that you are using?	
Provincial education bureau	14
City education bureau	3
County education bureau	2
School district	0
Principal	0
Teacher	0
Other	1

Figure 6. Versions of the Chinese language textbooks that are being used in rural primary schools in Gansu by grade level

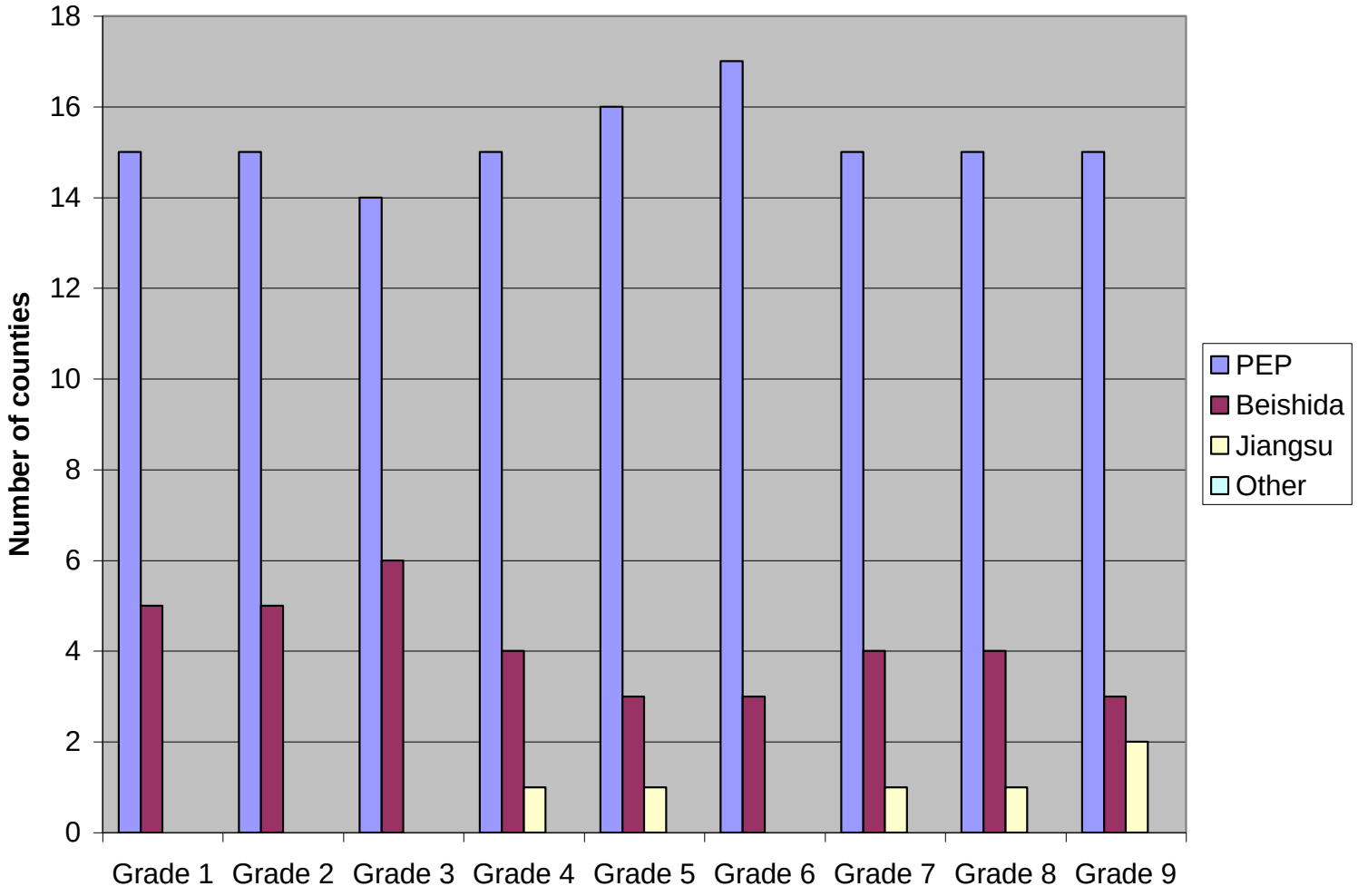

Table 5. 2007 Teacher reports of participation in teacher professional development (N=2,292)

	Percent/Mean (SD)
Participation in New Curriculum training (percent yes)	87
School level	53
Township level	38
County level	63
City level	30
Provincial level	11
National level	1
Total number of hours of New Curriculum training ever attended	81 (104)
Number of hours of all types of training attended in the past year	39 (64)
Teaching and research group activity attendance during the past semester	
Peer observation at own school (percent yes)	96
Number of times	12 (9)
Study group and discussion at own school (percent yes)	
Number of times	12 (7)
Distance learning activities at own school	73
Number of times	9 (9)
District level teaching and research group activities (percent yes)	55
Number of times	4 (5)
County level teaching and research group activities (percent yes)	28
Number of times	1.7 (1.2)
City level teaching and research group activities (percent yes)	13
Number of times	1.5 (1.3)
Provincial level teaching and research group activities (percent yes)	5
Number of times	1.7 (.58)

Table 6. Teacher reports of structural conditions in the school

	2004 N=1,604 Percent agree	*2007* N=2,292 Percent agree
Support for innovative methods from administrators	96	81
Class size is too large	66	47
School has ample teaching supplies	25	22
School has ample reference materials	30	26
I have many opportunities to interact with other teachers	78	61
I have a great deal of autonomy to teach as I like	73	54

Figure 7. Teachers' perception of most important barrier to New Curriculum reform implementation

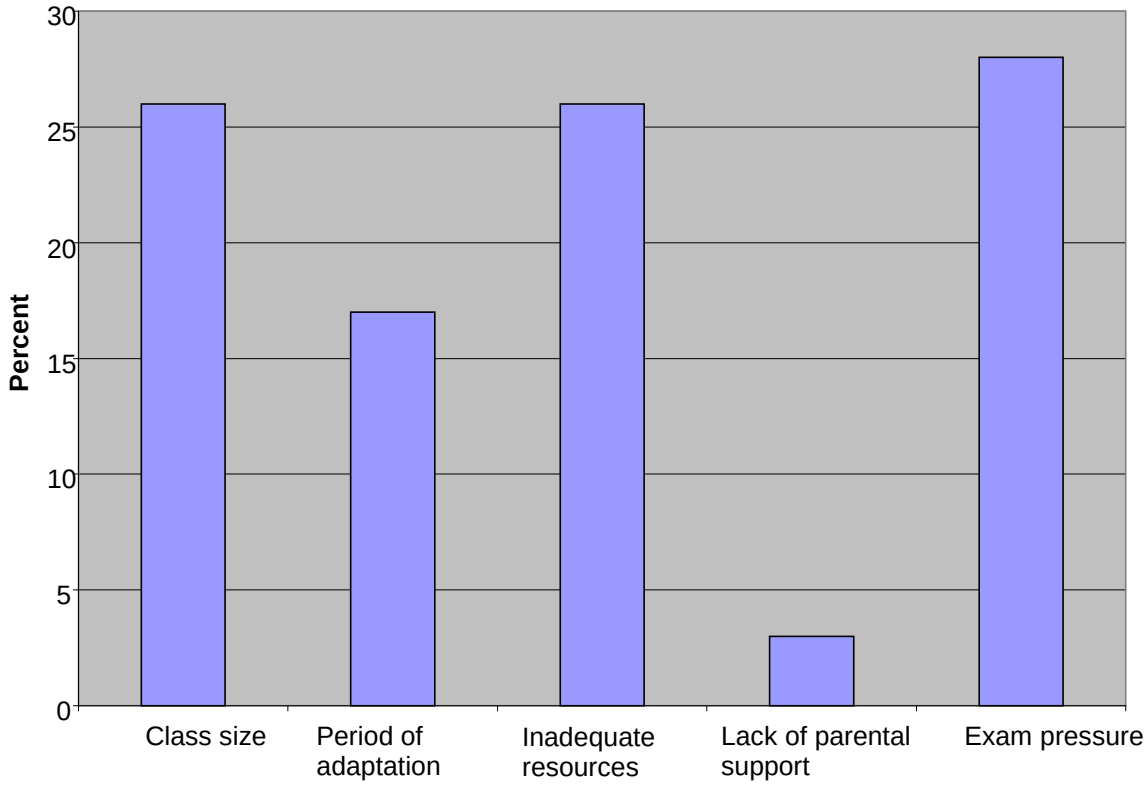

Table 7. Principal reports of school conditions for reform implementation in 2007 (N=192)

	Percent (SD)
School has started New Curriculum reform implementation (percent yes)	98
School has a school based curriculum (percent yes)	53
School uses a regional curriculum (percent yes)	36
School has a collective teachers' office (percent yes)	65
School has a multimedia classroom (percent yes)	61
School has computers (percent yes)	92
Average number of computers	25 (31)
Source of funding for computers	
-Allocation from upper level administration	31
-School raised funds	34
-International project support	28
Computers can access the internet (percent yes)	49
Use of the computers	
Student study	73
Teachers collect materials	77
School administrative work	87
Classroom teaching	78

Table 8. Student self-reports of psychosocial well-being

	2000 N=1,986 Percent agree	*2007* N=1,384 Percent agree
As long as I study hard I can do well in school	94	95
Happy at school	83	87
Don't feel like going to school	22	18
Often feel bored at school	27	15
I like to learn new things	85	86
Teachers like me	80	85