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Mesa hires about 350 teachers a year. Year after year there is a scramble to find enough skilled teachers, especially in math, special education and science. We have 38% of 2014/15 teachers with 20 or more years of experience and 20% with more than 25 years, which means we have a major exodus of retirees facing us in the next few years.

At the same time experienced teachers are moving toward retirement, enrollment in teacher preparation programs is declining. California, a potential competitor for teachers from Arizona, saw a 53% decline in teacher prep enrollments from 2008/09 to 2012/13¹. The University of Arizona reported 528 program completers in 2005/06 but only 281 in 2013/14 (the most recent year available). And of these completers, only 13 were in math, 21 in science and 55 in special education.²

Not surprisingly, ADE's report on educator retention and recruitment³ reported that Arizona has a shortage of effective teachers. The report cites declining numbers of people entering the teacher profession and many first year (24%) and second year (20%) teachers leaving their positions and not taking other teaching positions within Arizona.

This is not just an Arizona problem. A 2005 USED study tracked teachers for five years and found ten to seventeen percent a year left teaching and after four years only 46% were still in the profession at the start of the fifth year⁴. A 2016 Arkansas Bureau of Legislative Research report found that a third of new teachers left within three years. Teachers cited stress, administrative paperwork, pay and retirement benefits as reasons for leaving⁵. A RAND review of the literature found that higher salaries were associated with lower attrition and dissatisfaction with salaries were associated with increased attrition⁶.

Not all studies showed such a large attrition rate. A UCSB economist examined college degree and current work status using the 2014 American Community. He estimated that 55-65% of most cohorts were still working in education, except more recent graduates who are more likely to be unemployed (a fate hitting many new workers across majors).⁵

In addition, a recent 2015 USED study found that only 17.6% of new teachers in 2007-08 left the profession after four years. After the first year 10% left, but after that only 2-3% more left each year.^{6,7} A significant number of new teachers changed schools, but often this was involuntary (LIFO involuntary transfer or layoff). It is not known why these attrition rates are different from prior studies. However, one difference with prior cohorts is that a severe economic recession hit just as these teachers were entering the job market, so alternative career paths may have been limited. It should be noted that they found that teachers with higher pay and those who received formal mentoring were less likely to leave the profession.

It should be noted that attrition and workforce mobility is not unique to teachers. Worker mobility is a fact of life for employers today. Every month about 3% of workers 22 to 29 change jobs, which is actually lower than in the mid-1990's despite what you hear about millennials. For

those aged 25-34 the average job tenure was three years, for all workers 25+ the average was 5.5 years⁹.

Teacher attrition is a problem because it has high costs for the education system, students and teachers. Developing a new teacher into an effective teacher is an expensive proposition. New teachers need mentoring, extensive job embedded professional development, summer training, and more intensive evaluations and feedback. Providing this for three to six years is a significant amount of time and resources being invested in our future work force. If that workforce quickly leaves, we have lost our investment without any return.

If many new teachers are leaving and being replaced by wave after wave of newer teachers, it is not only expensive, but students are not being well served. Stanford Professor Larry Cuban estimates that it takes five to six years to become a good teacher. “Only by the end of the fourth or fifth year of teaching do most newcomers become competent and confident in figuring out lessons, knowing the ins-and-outs of classroom management, and taking risks in departing from the routines of daily teaching. Of course there will be variation among teachers in whether it takes five years or less, depending upon the person and the setting. Nonetheless, by that time, most teachers will have mastered the craft. They will have developed a repertoire of practices that fit their subject and students, and, by the end of four or five years, can make substantial changes in classroom structures and lessons.”⁷

The implications for teachers are significant also. Educators are trained for a specific profession. After taking four or more years to get an education degree, discovering teaching is not for you and you need to consider another career, may have high costs to the individual. There may be a need for additional training for a new career or one has to take a lower paying job while paying off school loans.

Also, the new teacher has contributed just over 11% of her compensation into the state retirement fund. She can withdraw it and lose the district’s matching dollars or leave it in the system and have an extremely meager return after turning 65.

The purpose of this report is to examine teacher retention and attrition in Mesa Schools. We know we are having difficulties recruiting teachers in high needs areas. Once we recruit them, however, how well are we doing at keeping them? We will address a number of questions including:

- ? What is the attrition rate for new teachers to MPS?
- ? Do we continue to lose many teachers after their first few years?
- ? Do teachers ‘stop out’ and return to teaching, thus making the attrition rate higher than it really is?
- ? Do poor schools have higher attrition rates than more affluent schools?

Methodology

We extracted teacher data from the OBARS HR and finance system. Teacher name, job description, FTE status, years of experience in MPS and overall and retirement status was collected for each year from 2004/05 through 2014/15. Teachers were considered a new teacher to Mesa if they had an FTE in a given year and no FTE in the prior years. Teachers were then categorized into cohorts based on their first year in Mesa.

Teachers were considered leavers if they had an FTE greater than zero in one year and an FTE of zero in a subsequent year. Certificated staff were classified as classroom teachers, support staff (psychologists, nurses, counselor, etc.), district staff (teacher specialists, directors, etc.), school administrators (Principal, assistant principal, team leader) and other (adult ed, community ed, etc.). The focus of this report was on classroom teachers and in the case of the low income school comparison, all school based educators.

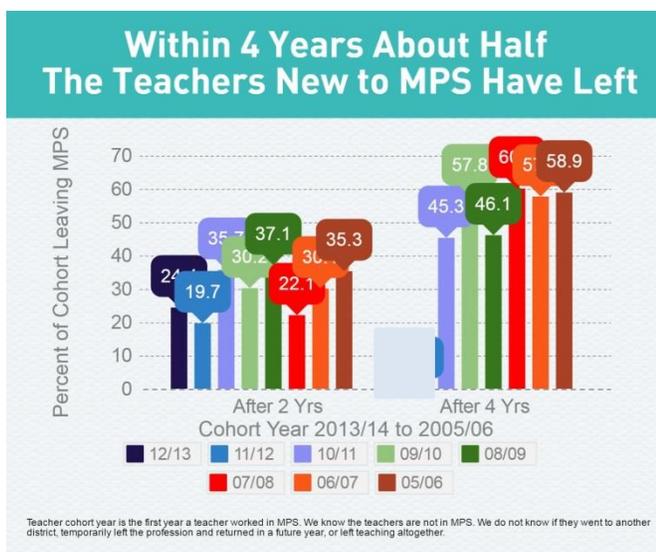
Results

How Many Teachers Leave in the First Few Years of MPS Teaching?

Mesa loses a significant number of teachers in the first few years of teaching. After two years 20% to 37% of new teachers are no longer working in MPS. After four years 45% to 60% are no longer in MPS. This is slightly better than the ADE report which said 44% of new teachers are gone after two years, but the numbers are truly staggering.

Are these new teachers leaving education altogether or do they leave Mesa for better prospects in other districts? We cannot say, because we are limited to MPS data and we do not have exit interview information.

However, the ADE report looked at employment anywhere in Arizona and had similarly high attrition rates. Most likely either they are leaving the profession or leaving the state. We don't have data on teacher



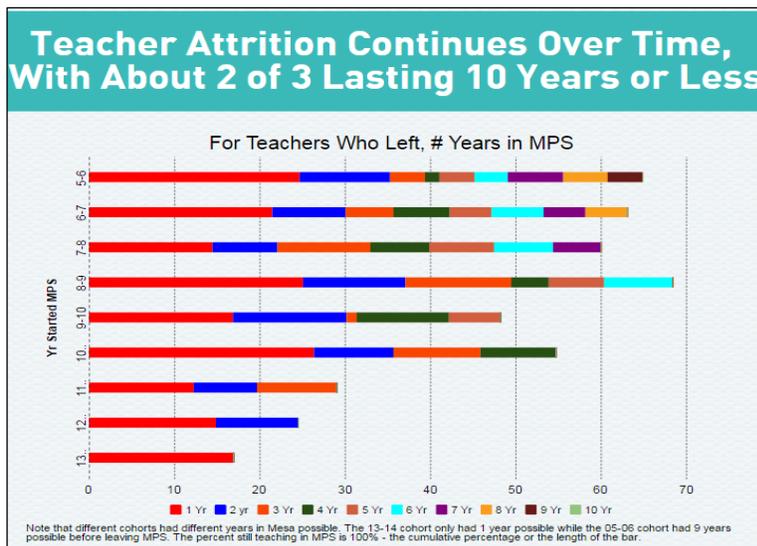
movement across the state line. However, research has found that, unlike other professions, teachers are very likely to teach near where they grew up⁸. So it is unlikely that Arizona's teachers are going out of state in great numbers, unless it is to go back to teach near their home town.

One caveat on teacher turnover is we are looking at patterns over ten years, which assumes the past trends will continue. The most recent national data suggest the initial turnover since 2008 is less than in the past. Is that study the anomaly or have patterns changed? In Mesa we see less initial turnover in 2007/08 and some years after that, but not in all years. If turnover is consistently declining that would be a positive sign. This will require continued tracking of teacher attrition.

Do teachers continue to leave the profession as they get more experienced?

It is possible that new teachers leave because they realize that the demands of the job are too much or there is not a good fit between the profession and their skills and interests. But do more experienced teachers continue to leave the profession even after they have gotten over the initial hump of getting acclimated to teaching and developing additional pedagogical skills?

The data indicates that the greatest loss is in the initial years, but there continues to be teacher attrition. The new teachers in 2005/06 were tracked the farthest in this study. Although just over 40% left in the first four years, they continued to lose about four to six percent a year, so that by 2014/15 only a third of the initial cohort remained.



Again, we do not know why these experienced teachers left. It could be due to leaving the profession, but it is just as possible that it was due to a spouse's job relocation, a better job in another district, etc.

One consequence for the teachers that leave is that they will get a very small pension because the bigger 'multipliers' occur at 20 years and beyond. Or, they will withdraw their contributions, thus losing their employer's contribution and any lifetime pension income. Since

a defined pension benefit is one of the attractions to teachers, this is a major loss compared to teachers who stay for 20 to 30 years who could get about 70% of their highest earnings in retirement.

Do teachers ‘stop out’ and come back to teach later?

Some suggest that teachers leave their position to raise their children and return to teaching once their children are in school or older. If this was happening on a large scale we would be over counting teachers as leaving the field because some teachers ‘stop out’ and then return.

To test if this was occurring in MPS we took all 3,692 teachers who were employed in 2004/05 and tracked them through 2014/15. Anyone who was gone for one year or more and returned at least part-time was considered a returnee. Some of these teachers may have left to take a different job, for illness, or any of a number of reasons in addition to raising a family. So if we assume that all those who leave and come back do so for family reasons, we are probably overestimating the impact of raising families on attrition.

There were 129 of 3,692 teachers who left at least one year and returned. This is only 3.5% of the teacher pool, so this does not explain the high attrition rates. It should be noted that many of these teachers only returned for one year, many for part-time, and then left MPS again. So, even though they returned, many quickly left the ranks of MPS teachers again.

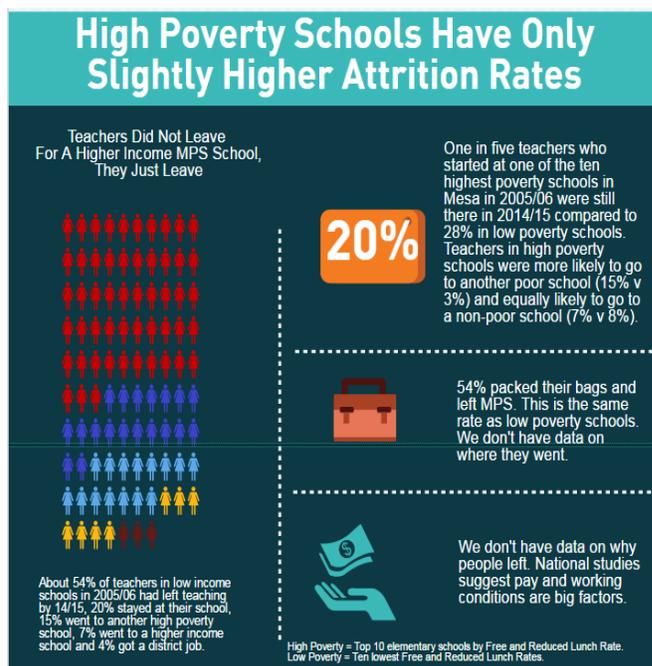
Do educators at high poverty schools leave at a higher rate than those at higher income schools?

RAND’s review of research (2006) found that in most studies attrition was higher in low-income, low-performing schools. It has been suggested that new teachers are disproportionately placed in more challenging schools, and that is why there is a higher turnover rate among new teachers. To examine this we looked at the 2005/06 cohort’s teacher turnover at the ten highest poverty elementary schools and the ten lowest poverty elementary schools based on free and reduced lunch participation.

Much to our surprise, in both groups of schools 54% of the teachers in 2005/06 were no longer in Mesa in 2014/15. Teachers in both set of schools were also about equally likely to move to a low poverty-higher income school (7%).

Where the groups differed was in transferring to other high poverty schools. Teachers in a high poverty school were much more likely to transfer to another high poverty school (15%) than teachers in a low poverty school (3%). So, students in the higher poverty Mesa schools would experience somewhat more teacher transience. But it is not because teachers are leaving the profession at higher rates or fleeing to 'richer' schools at higher rates.

What is striking is that both types of schools have very high turnover over the course of ten years. This suggests attrition in Mesa may not be due to the conditions in the higher poverty schools. Instead it may be that teaching is a bad fit for many people who go into it or other factors such as working conditions generally, compensation, etc. drive people from the field over time.



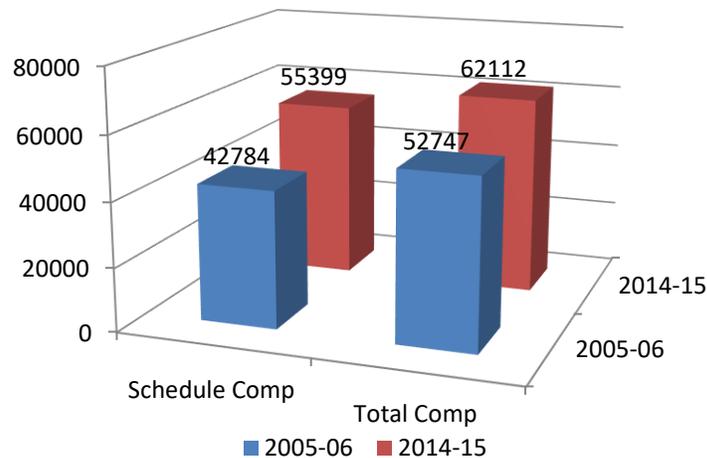
How Did Total Teacher Compensation Change?

We examined annual compensation in 2005/06 and 2014/15 for full-time educators in both years (N=1,413). We excluded returning retirees and those who were substituting or in support staff positions in 2014/15.

If we look just at the annual scheduled salary, or the amount received based on the salary schedule, the median increase was \$11,614 or 27.0% more than the median 2005/06 salary of \$42,784. I should underscore that that increase occurred over ten years.

However, teachers can earn additional compensation for extra duties -- Career Ladder, stipends attached to a few specific positions, working in the summer, etc. This additional income was significant -- typically several thousand dollars and in some cases over \$20,000.

So how did their total compensation change over time? From 2005/06 to 2014/15 the median total compensation increased \$9,695 or 18.4% over the 2005/06 average of \$52,747. The increase is lower than the salary schedule increase because sources of additional compensation were eliminated (e.g., Career Ladder) or greatly reduced due to budget pressures. For example, the average additional compensation in 2014/15 was almost \$3,000 less than it was in 2005/06.



I should also note that some teachers received promotions which may have boosted their compensation. However, very few of these teachers left the classroom or schools. Only eight went to assistant principal- like team leader administrative positions (0.6%). However, 71 (5%) moved into district teacher specialist positions. These positions often have extended contract days and/or stipends that increase compensation. But, the impact of these promotions is probably minimal overall because over 94% of the teachers were still in schools.

This shows that teachers did receive increases over the last ten years. However, the increases were not large and in some years during this period may have been negative due to freezes and furlough days. Also, this does not take into account any increases in deductions (e.g., health care costs) over the time period that would have eaten up some amount of the increases.

Implications

There is a well-documented teacher shortage, at least in specific areas of education and regions of the country. Much of the focus on solving this teacher shortage is on training new teachers. That singular approach is like pouring water into a glass with a large hole in its side and when

the pitcher is empty saying the reason you do not have a full cup is that you need more water. The focus also needs to be on fixing the hole.

Mesa has a teacher retention problem. Arizona has a teacher retention problem. The United States has a teacher retention problem. It is a waste of a great deal of resources if districts provide extensive training, mentoring and support during a new teacher's first years only to have them walk out the door and never get to a highly effective level of performance that they demonstrate over many years.

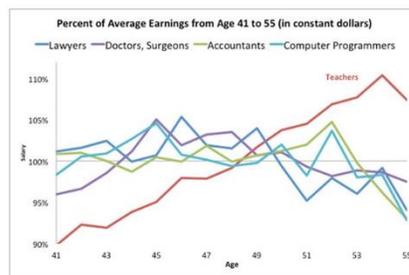
In light of the declining enrollments in teacher preparation programs, counting on a large supply of new teachers to fill job openings will not be the solution by itself.

A part of the long term solution for teacher shortages should be to try to staunch the loss of teachers once they enter the classroom. Research cited above noted that factors like pay, mentoring and working conditions can affect teacher attrition rates.

First, we have to determine what changes would be needed to get teachers to stay in MPS. Nationally, there have been a number of studies on this topic. There have also been a number of blogs by teachers across the country on why they have decided to leave, or stay in teaching..¹³ The most frequently mentioned factor in teacher attrition by researchers and teachers is the low salary.

The obvious response should be to increase teacher salaries. However, we are not likely to get significant resources that can be dedicated to increasing teacher pay, so how could we address early career pay?

There is no easy way to change current compensation practices without being very controversial. For example, one could 'flatten out' the difference between starting pay and pay after many years in order to increase new teacher compensation. Compared to other professions, teacher salaries are back loaded. That is, new teachers are paid less and senior teachers are paid more as a function of the row and step salary schedules. A Brookings Institute study found that in selected other professions the starting salary is higher and does not increase as much with added experience. ¹⁴



Source: Breaking tradition: A fixed-dollar pay raise strategy that benefits teachers and school districts.

Source: Roza, Reference 14

The step and row salary schedules are increasingly being dropped by districts, but the effect is to slow and lower the eventual top pay, not increase beginning pay significantly. If the savings from the change in salary schedules could be used to target a change in the entry level teacher salary trajectory, it may help address the salary concerns of new teachers somewhat. But it will generate opposition from those already in the profession who are looking forward to higher pay in the future.

The other major source of compensation dollars, currently 23% of teacher compensation, is the money going into the retirement system. Since many teachers are not staying in teaching (or Arizona), the retirement incentive is probably not very compelling to new teachers. Could the system be made more compelling so it keeps teachers in teaching or could some of that money be used in different ways to incentivize staying over the shorter term?

A second concern of teachers is the increase in administrivia, testing and top down management of the teacher's lives. This may change somewhat now that NCLB is being replaced by ESSA. However, many of these requirements come from the district. This would require a review and reassessment of what the district and its many departments require of classroom teachers.

Another concern is society's perceptions of teachers. If teachers are considered the 'problem' when it comes to achievement, pension shortfalls, etc. and if they are known for having low salaries and limited resources to do their jobs (e.g., supplies, technology), it will be hard to attract people into the profession and get them to stay. Changing this is a societal issue, not just a Mesa one. But perhaps within Mesa a strong and concerted effort to have parents and community leaders say Mesa supports Mesa's teachers. This would not be a one-time banquet but would need to be an ongoing initiative. It may not do much, but it would send the message that teachers are valued in Mesa.

If we raised starting teacher pay, cut down on paperwork and mandates and made Mesa a community that appreciates teachers would be eliminate teacher turnover? Whether these steps can make enough of a difference is not clear. Worker mobility is a fact of life for employers today. Every month about 3% of workers 22 to 29 change jobs, which is actually lower than in the mid-1990's despite what you hear about millennials. For those aged 25-34 the average job tenure was three years, for all workers 25+ the average was 5.5 years.⁹ In that societal context, new teachers may see career movement as a natural thing to do.

If that is the case and we cannot stem the loss of teachers while fewer enter the profession and student enrollments across the country start to increase, there will have to be another solution. Matt Ladner has suggested this is not a problem but an opportunity. He sees education having fewer but higher paid teachers using technology to teach a larger number of students per teacher.¹⁵

Before we go to that future, we should consider what steps we could take to keep teachers in Mesa. We should also do a more in depth study of the teachers who leave Mesa to determine where they go and why they leave.

Keeping good teachers in Mesa is important for student achievement. Decreasing teacher attrition should be a priority. This report shines a light on the situation in Mesa and may help us take some first steps toward addressing this problem.

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