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Remaking Utah Education as a Source of Family-Sustaining Earnings

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Remaking Utah Education as a Source of Family-Sustaining Earnings

By Garth Mangum*

Abstract

Post-secondary education and skill training are increasingly essential to family-sustaining earnings. Successful elementary and secondary education are essential for access to post-secondary education and training. Given the family backgrounds of large proportions of youth and the needs for a second chance by many adults, public education should include:

~Universal pre-school preparation
~An 11 month school year
~After-school remedial opportunities
~"Combat pay" for teachers at the more "troubled" schools
~K-14 public education
~Competency-based education where possible
~Second chance employability-development opportunities

With those, access to and a second chance at post-secondary education and skill training would be realistically available and family-sustaining earnings would follow. Taxation of the resulting increased incomes would subsequently repay the added education costs.

Introduction

Education is key to many aspects of life. It is difficult to imagine a democracy existing and functioning successfully without a reasonably educated electorate. That is why some level of free public education has been universally available throughout the history of the United States of America. As the world gets more complicated it cannot be understood without substantial study, most readily available to all in a public school setting. But also as the economies of the world become more complex, it is increasingly necessary to have formal education just to earn a living. Figure 1 illustrates that point with the national unemployment rate and median weekly earnings by educational attainment for the nation. Table 1 reinforces those findings with the hourly and annual income of Utahn's based on their extent of skill training as well as post-secondary education. In addition, the 2007 Economic Report to the Governor stated that 68% of those with bachelor's degrees or higher received health insurance and 48% received retirement benefits compared to 35% and 20%, respectively, for high school graduates. Since the average annual earnings of Utahns are substantially below the national average, preparing adequately for family-sustaining earnings is especially important to Utahns. Post-secondary education and skill training are key elements in that process, success at previous education levels being essential preparation for the post-secondary level.

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Figure 1

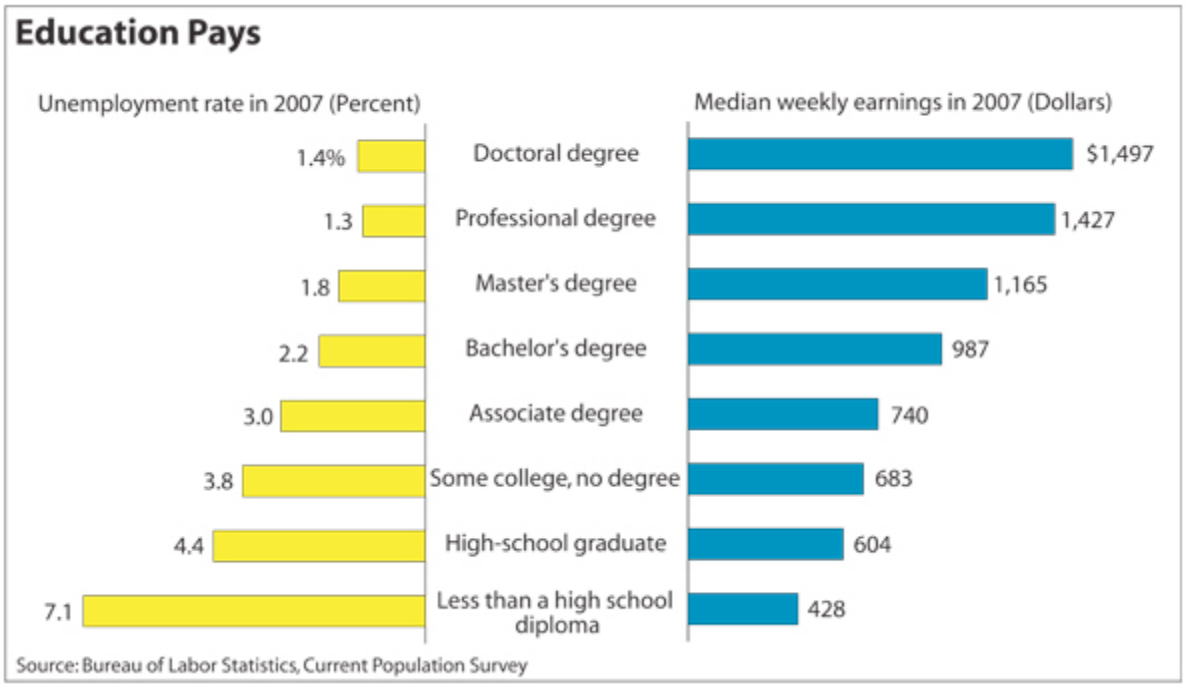

Table 1

Average Hourly Earnings of Utah Workers by Level of Education and Training 2006

Training Level	Number of Employees	% of Total	Average Hourly Wage	Full-time Full-year Earnings
Bachelor=s Degree or Above *	256,600	20.4	$32.70	$65,400*
Associate Degree	45,500	3.5	$22.80	$45,600
Applied Technology Certificate	62,600	4.8	$16.80	$33,600
Work-related experience**	100,600	10.1	$23.80	$47,600
One or more years OJT***	104,300	8.1	$17.80	$35,600
1-12 months OJT	265,000	20.4	$14.30	$28,600
Less than 1 month informal OJT	453,700	35.2	$10.40	$20,800
Total/Average	1,228,700	100.0	$18.90	$37,800

Source: Utah State Department of Workforce Services

*The 2009 Economic Report to the Governor, page 150, states for 2005 Utah median annual earnings at the bachelor's degree level $50,900, master's $61,300, doctoral degree $79,400 and professional degree $100,000.

**Typically people promoted to supervisory positions after substantial work experience

***OJT= On-the-Job Training

Despite relatively low wages in the state, Utahns tend to avoid poverty by having more than one earner per family and more than one job per earner, as well as by pursuing education and training. Unfortunately, Utah appears to be slipping in its pursuit of both education and earnings. While Utah's three-year average poverty rate of 9.4% for 2005-2007 was the lowest in the mountain states and

compared well with the national 12.5%, Utah's poverty rate was by then 11th in the nation whereas it had the third lowest poverty rate in the nation in 1995. For 2007 by itself, Utah's poverty rate had climbed to 10.3% compared to a national 13.3% bringing Utah to 14th. That Utah's educational accomplishments are declining in comparison with national averages is particularly disturbing under these conditions. Utah's public education expenditure of $5,464 per student in 2007 was the lowest of any state in the United States and its education expenditure of 3.7% of total personal income compared with the national average of 4.1% was 43rd among the 50 states. Utah also has the highest pupil/teacher ratio in the nation—22.1 to 1 compared to the national 15.7 to 1 average. While Utah has the sixth highest high school graduation rate in the nation in 2008—90.4%, its adult bachelor's degree or higher average at 29.1% is 18th highest and only slightly ahead of the national average of 27.7%. Utah's score on the nationally-used Iowa Test of Basic Skills is 54 compared to the national 50 average. As to college entrance exam scores, Utah's ACT scores are 23rd in the nation and its SAT scores are 20th. The state manages to remain close to the national average on educational outcomes, despite its relatively low financial commitment.

But like everywhere else in the country, its low income population remains in that status at least in part because of their lack of educational preparation. Though, as noted, over 90% of Utah's adult population had graduated from high school in 2005-2008, only 12.8% of those with incomes less than 125% of the poverty level had done so. And, while nearly 30% of the total adult population had bachelor's degrees, that was true of only 5.7% of those near and below poverty. Since post-secondary education is key to family-sustaining earnings, successful progress through elementary and secondary education is essential preparation for post-secondary success. Let's see where Utah stands in that regard.

Pre-School Through High School

If every youth and adult is to have post-secondary education and/or skill training, every child must do well enough in elementary education to prepare for secondary education and every youth must succeed in that step to prepare for the post-secondary one. But a child who gets off to a bad start in elementary education may never get back on track and never adequately complete secondary education, let alone continue thereafter. Of Utah's 40 school districts, six—San Juan, Ogden, Piute, North Sanpete, Wayne and Salt Lake, in that order—draw more than one-half of their students from homes with incomes below the federal poverty level and another 13 districts have more than 40% of their enrollees from such families. San Juan and Salt Lake districts draw over one-half their students from limited English-speaking families and Granite and Ogden school districts have more than 30% of their enrollment from such circumstances.[1] Classroom scores reflect those home circumstances. School quality is important but family background is an even more important determinant of educational success, especially in the earlier

[1] 2008-2009 data from the Utah State Office of Education

years. Those from racial and ethnic minorities and from low income families--measures with large overlaps--are less likely than their counterparts to graduate from high school, continue on to post-secondary education and skill training and complete and graduate from various post-secondary alternatives.

Using the Salt Lake School District as an example, 77% of west-side and central city elementary school students are from families with poverty-level incomes and 79% of them are from racial and ethnic minorities. Among those west-side schools, even those students from non-poor families scored an average of only 48 on the Iowa Test of Basic Skills whereas those from the low-income families scored 38. In contrast, in east-side schools, 19% of the students are from families with poverty-level incomes and only 18% are from minority families. In those schools, students from higher income families averaged 68 on the Iowa Test and even those from low-income families averaged 49. Shifting to middle schools, 80% of those from the west-side and central city are from low income families and 73% are from minority households, whereas on the east-side 38% are from low income families and 30% from minority families. Of those, on the west-side, the non-poor again scored 48 and the poor 37 whereas on the east-side the scores were 60 and 44 respectively. There was too much east/west inter-enrollment at the high school level to test the difference there.[2]

The facts that Utah has the highest student/teacher ratio in the nation along with the lowest average teacher pay and the lowest per student educational expenditure in the nation cannot be irrelevant to the outcomes challenge. That Utah is only 36th in the nation in the proportion of total personal income spent on K-12 education suggests that we are not doing all we might. The fact that K-12 enrollment will continue to increase substantially until at least 2016 suggests that we may well be forced to improve our education support commitments. Faced with all of these obstacles, Utah's education system must, while keeping everyone else moving forward, find ways for children raised in poverty or otherwise handicapped in their learning potential to eventually benefit from the post-secondary educational system so that they can earn family-sustaining earnings as adults. How can we accomplish that? There are at least four overlapping alternatives: (1) provide instructional remedies for children who lag behind their peers at the very beginning of their school experience, whether provided by their parents or the schools, (2) provide adequate staff resources so that teachers have the time during school sessions to provide the needed remedial education, (3) provide remedial education after school and at any time school is not in session, and (4) extend school duration for greater learning opportunity. All four of these approaches are being tried but obviously are not yet adequate in quantity and quality.

Parent Training and Early Start

[2] 2006 and 2008 data from Salt Lake School District

Children from low-income families too often suffer from limitations at home as well as at school, most notably a lack of time and energy as well as education on the part of parents. These children would have more promising futures if their parents could receive basic assistance and instruction on parenting techniques. Ideally, such instruction would begin at prenatal stages and would include all adults to be involved in parenting the forthcoming child, not just the mother. Such instruction could be attached to the Special Supplemental Nutrition Program for Women, Infants and Children (WIC) currently available to families with incomes below 185% of the poverty line. Parenting instruction could also be attached to the Temporary Assistance to Needy Families (TANF) program, though it is primarily limited in its availability to single-parent mothers. At this time, parenting instruction is largely limited in its attachment to the Early Start component of the Head Start program described next. Every child would be better off if parents had adequate preparation for care-giving, but the need is greater and its fulfillment less likely among the poor.

Early Childhood Education

Research is replete with the message that the earliest years are the most important for intellectual development. The gains from effective early childhood education tend to fade over time but maintenance of that "head start" requires an investment in effective education as the child moves on into K-12 schooling. At present, approximately 37,000 Utah children under the age of five are in regulated childcare facilities each day and an unknown number are being cared for in unregulated facilities or by friends and relatives. Some of them are in child-care only to relieve their parents for employment, but substantial numbers of these child-care facilities are dedicated to early childhood education for more effective child development. For families with adequate incomes and adequate capability, it is a realistic choice whether pre-school children are taught and prepared solely by their parents or whether they spend part of their days in other child-care settings at parent's expense. Many low-income families are troubled families, especially in terms of the ability of parents to devote time to child-rearing and to do so effectively. Hence, quality day care at all ages ought to be perceived as a critical educational opportunity (though not a requirement), and day care providers ought to be trained and empowered to foster such opportunities.

Early in the national anti-poverty efforts of the 1960s the need for a "head start" for the children of the poor was recognized**.** Children from higher income families had the advantage of parents likely to have more education and more time and energy to work with their children before those children began their formal education. Children from low-income families needed an opportunity to prepare earlier to enter the K-12 system ready to learn. However, now, more than forty years later, many if not most children from higher income families are enrolled in pre-schools from three years of age. The result has

been to turn the formal Head Start program into a stop-gap effort to keep low-income children from falling even further behind.

Head Start provides grants to local public and private agencies to offer comprehensive child development services to economically disadvantaged children and their families. The primary objective is to promote school readiness by enhancing the social and cognitive development of children through the provision of educational, health, nutritional, social and other services to enrolled children and their families. Head Start also seeks to engage parents in their children's learning as well as helping the parents progress in their educational, literacy and employment goals. It does so through three different programs throughout the state. Five Early Start programs involve pregnant women and children from birth to age two and their mothers. There are seven of the standard Head Start programs enrolling 3-5 year old children. There is also one Migrant Head Start program serving children 0-5 from migrant and seasonal farm worker families.

According to the 2000 census, 28,442 children under six years of age lived in Utah families with incomes below the federal poverty line. The number today is unknown but probably higher. During 2007-2008, 7,242 Utah children were enrolled in a total of 350 continuing Head Start classes throughout the state, 676 of those enrolled being less than three years old and involved with their mothers in Early Start classes, including 65 pregnant women of whom 22 were under 18 years of age.[3] Of the total enrolled, 6,022 were from families with incomes below the federal poverty line, 423 were eligible because they were on public assistance, 184 were foster children and 613 were admitted to the program for other reasons. The majority, 4,670, were from English-speaking families, with 2,384 Spanish-speaking and the others from a combination of Asian, European and African languages. About one-third were from single parent families and two-thirds from two parent families. A total of 314 Head Start students from 284 families were homeless at some time during the year. The fact that less than one out of four of the eligible children were enrolled in Head Start does not represent limited demand. Far more applied and even more would undoubtedly have done so if the capacity had not been limited by the federal funding available for Head Start in Utah. Limiting Head Start classes to six hours per day for four days per week was one means of spreading out the limited funds to cover a larger proportion of the applicants.

Historically, Head Start has been more flexible in its teacher preparation requirements than has K-12 education. Those hired as Head Start teachers in recent years have been required to have at least an associate's degree in early childhood education and bachelor's degrees are planned to be required by

[3] Head Start Information Report for the 2007-2008 Program Year, Utah Department of Health Community and Family Health Services, 20 April 2009

2010. As of 2007-2008 there were 311 teachers and 291 assistant teachers engaged in Head Start in Utah. Of the teachers, two had graduate degrees, 129 had bachelor's degrees, 107 had associates degrees and 73 had child development associate credentials from Head Start's own internal program. Comparable numbers for assistant teachers were two with graduate degrees, 30 with bachelor's degrees, 45 with associate's degrees, 60 with Head Start degrees and 154 enrolled and pursuing such degrees. The increased requirements have added to the challenge of retaining Head Start teachers. The beginning salaries of Head Start teachers are higher than those of public school teachers, though their benefits are typically lower and their salary schedule is capped at a much lower level than that of public school teachers. Hence, with experience, increasing numbers obtain teaching certificates and respond to the enticements of the public school teaching shortage in Utah.

In addition to teachers and their assistants, a Head Start Family and Community Partnership Program employed 138 family workers and 18 supervisors in 2007-2008 involved directly with families statewide. They assisted eligible families in obtaining access to health insurance, medical care, dental services, immunizations, mental health assistance and a wide range of other services to other family members as well as to the Head Start enrollees. Head Start Policy Councils comprised of current and past Head Start parents and other low income community members have a role stronger than usual school Parent and Teacher Associations (PTA) in that they approve and disapprove budgets, staffing, curriculum and other policy matters. The national curriculum provided for Head Start counsels against teaching three and four year olds to read or to perform arithmetic. One reason is that eyesight may not have developed adequately. But stimulating intellectual development is quite another thing and can include tasks such as learning to enjoy and value the written word, learning to count and make simple informal calculations, learning to listen to stories and construct one's own and learning to undertake and complete other interesting tasks. No data on Head Start outcomes in Utah is available, but its reputation is strong and the demand for its services far exceeds program capacity limited by current federal funding.

Another alternative to the under-funded Head Start program is to provide early childhood development to the approximately 37,000 children under the age of five involved in officially approved childcare in Utah. Utah is one of only ten states that provide no independent state funding for childcare and early childhood education. Of the 40 states that do provide such funding, 26 target their programs to children from low income families. Utah does match some federal childcare funds for families with incomes below 185% of the federal poverty lines but never enough to draw down the full federal funding available. In fact, this funding is currently provided for no more than 10% of those eligible. In addition to having low incomes, to be eligible for child-care funds parents have to be employed at least 15 hours per week. In addition to providing care so that parents can work and possibly also attend school, the time

in licensed child-care facilities offers a potential opportunity for early childhood education similar to Head Start.

As the state with the highest birthrate and youngest population in the nation, child care has to be of special interest to Utah. In mid-2009, there were 36,980 slots in regulated childcare facilities in Utah.[4] Of these, the child care costs of 12,437 eligible children from low income families is provided by matched federal and state funds of which the federal government would have been willing to support far more had the state offered to meet the matching requirement. Legally, recognized child-care can be provided by a holder of a residential certificate or by a licensed family or family group. One caregiver can care for up to eight children including the caregiver's own whereas a licensed family group caregiver can care for up to 16 children. There are no formal education requirements for any in-home caregivers in these three categories. Licensed out-of-home childcare centers with at least two caregivers on site can provide for up to 12 children for each two caregivers. Center directors are required to have a child development associate's degree or a bachelor's degree in early childhood development, though other caregivers in such centers face no formal education requirements. The low pay generally offered to child-care workers is unlikely to attract quality experienced and credentialed teachers and, given what parents can generally afford to pay for child care, those providers are constrained in their ability to pay higher wages. Nevertheless, the early childhood development requirements imposed on center directors opens the door for a greater contribution than is generally evident today.

Recognizing Utah's special commitments to marriage and family, in 2005 the Utah Office of Child Care, the Utah Commission on Marriage, and the Utah Commission on Women and Families were all combined as the Office of Work and Family Life within the Utah State Department of Workforce Services.[6] Hoping to improve the competence of childcare workers, the Office of Work and Family Life then joined with the Salt Lake Community College in creating the Child Care Professional Institute funded through a DWS Child Care Development Block Grant. A Career Ladder Program has been introduced with nine levels of endorsement: (1) Infant and Toddler Endorsement, (2) School Readiness Endorsement, (3) Special Needs Endorsement, (4) Center Director's Endorsement, (5) Family Child Care Endorsement, (6) Guidance and Emotional Wellness Endorsement, (7) School Age Endorsement, (8) Touchpoints, and (9) Theories and Best Practice.[7] Each endorsement area, limited to two per year, requires 40 hours of training and is rewarded by a $100 bonus. Adding college courses and attaining a college degree can raise the level of certification rewarded by bonuses ranging from $100 to $1000.

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[4] Child Care Professional Development Institute, Salt Lake Community College, 10 July 2009.

[6] Department of Workforce Services, *Navigating Jobs.Utah.Gov just got easier*, Annual Report 2006, p. 18.

[7] Child Care Professional Development Institute, *Provider Professional Development Programs,* July 2009.

Scholarships are available to cover the costs of the college courses for those with incomes under 300% of poverty which should not be a problem for most early childhood staff. A Training and Longevity Supplement Program extending to nine or more years of continued licensed experience offers further cash supplements ranging from $100 to $900, depending on Career Ladder Level and duration of continuous licensed experience. Whether salary and wage earnings levels will be affected and to what degree remains to be seen, but is clearly an impressive attempt to professionalize the childcare process. The availability of these bonuses needs to be more widely publicized and their use accelerated, especially in circumstances where children from low-income families are served. Child-care personnel, if adequately prepared, can contribute at least as much to children's long-term educational success as formal pre-school and K-12 educators.

At the increasing request of persuasive families, an undetermined total number of Utah school districts have instituted pre-school programs to which parents by choice pay fees to enroll their three and four year-old children prior to their entrance to k-12 publically-supported education. Many other sources of early childhood education exist in the state. If parents with adequate resources find it worthwhile to begin at least part-time schooling for their children at age three or so, certainly that opportunity ought to be available to every child from a low-income family. Children spending their days in child-care ought to have substantial proportions of those hours devoted to educational preparation. Between expanded Head Start and DWS child-care recipients, the majority of children from low income families would have access to effective pre-school preparation and a realistic "head start" on primary and secondary preparation for further effective post-secondary development of capability for family-sustaining earnings.

In summary, every child should enter kindergarten adequately prepared to learn. That preparation can be provided by parents at home or through pre-school education. Parent education should be available for all of those who perceive its need. That can be accomplished through parents reading relevant books, participating in on-line instruction, or enrolling in formal courses. Competent pre-school education for children can already be purchased by those who can afford it. Head Start, whether paid for by federal or state government, should be available to all eligible for it. The State of Utah should meet federal matching requirements to the extent that child-care becomes available at public expense for all legally entitled to it. Child-care should become as much typified by child development education as it is by the care of children to allow parental employment and school attendance. Unfortunately, early childhood education must be politicized before it will become generally available as a public investment.

K-12 Education

Obviously, if the bridge out of poverty and the road to family sustaining earnings is to be found in post-secondary education and skill training, students must be adequately prepared for and successfully

complete secondary education. What appears to be lacking is commitment to identify what is necessary, persuade decision-makers, get it funded, and prove it by the outcomes. Given the level of teacher pay, it is not surprising that the number of potential teachers in training and the number completing their degrees and certificates is substantially below the annual demand for K-12 teachers in the state and those trained in other states have no enticement to migrate here. That should not continue. Utah's teachers may be sufficiently motivated to produce outstanding education despite those handicaps but such cannot be depended upon. Expert and dedicated teachers may be able to provide competent instruction despite overwhelming class sizes, but that cannot be assured. Given large family size, Utah taxpayers already assume a high per taxpayer burden in educational support, but such costs should be recognized in the choice to have children or to become grandparents and great grandparents of them.

Clearly, per pupil expenditures, teacher pay and classroom size should move rapidly to at least national averages. There should not only be requirements of outstanding teaching performance, aided by financial rewards for demonstration of that performance, but there should be additional pay or bonuses for teaching in those schools having the most disadvantaged students. The best teachers could then be attracted to and selected for the situations in which they are needed most. There should also be adequate teacher's aide support to allow teachers to provide personalized assistance in the classroom. A variety of means are available to enable teachers to handle large class sizes, but only supplementing those efforts with teachers' aides or using competency-based techniques discussed later have any degree of effectiveness. There should be after-school remediation programs for all who need them, as well as summertime remediation until we recognize and respond to the need for year-round schooling.

Another consideration is time in classroom. The 2007 legislature made a positive contribution when it authorized but did nor require full day kindergarten. Those parents with the least time or inclination to instruct their children at home are most likely to take advantage of the longer in-school time. On the other hand, little has been done to move away from the long summer respite which began in an era when most Utahns were farmers. None of that makes sense now. Long vacations from school merely contribute to forgetfulness and spending the first few weeks of the new school year recalling what had been forgotten during the summer time off. There have been attempts to reschedule schooling to continue year round with short breaks between semesters and a few schools in the state do continue a year-round schedule, but the lack of building air conditioning seems to be a major obstacle. The school year should clearly be longer. Longer days for the regular classes may not be necessary but remedial time and efforts after school are—for parents as well as children. Keeping the students in school for more days per year would increase learning, reduce forgetfulness, get the children off the streets and provide the teachers with a longer school year and increased pay. Of course, it would also have a substantial impact

on taxation requirements. But it can't be all about pay, at least not just in the monetary sense. There can be no greater career mission than teaching and within that career mission, nothing more important than preparing people for family-sustaining earnings.

14 Years of Public Education

Twelve years of free public education was introduced long before that level of education was required by the labor market. Rather, it was assumed to be a requirement of a democratic political system and an adequately functioning society. Now that post-secondary education and skill training has been proven to be an essential basis for family-sustaining earnings, it is long past time to remove all financial barriers to that level of education by providing free, tax-supported education to the current associate's degree level. As will be noted in later discussion, the equivalent of the current 14 years of education could be accomplished in much less time through more effective instruction and learning procedures. The final year of the existing high school system is well known to be less than productive. Much of the learning that is now pursued during the last two secondary school years and the first two post-secondary ones has special potential for competency-based education, as will be discussed later.

Tuition currently covers 36% of the costs of higher education in the state—up from 25% a few years ago—and it has been rising substantially over the past few years. Undergraduate tuition has risen 60% in constant dollars since 1990-2000. Meeting through taxation the additional costs of the current two years and less of post-secondary education would cost Utah taxpayers an estimated $150 million each year. If the availability of free public education at the 13th and 14th year doubled current enrollments, $300 million might be added to taxpayer burdens. Increasing the earning capacity of those future taxpayers would more than cover the costs over subsequent years but the taxpayer burden would be substantial up front. Though the proposed two-year change in the duration of public education would probably need a multi-year introduction, its initiation should not be delayed.

Post-Secondary Education

Each of the components of post-secondary education and skill training merits comment as to current conduct and proposed changes. Figure 1 and Table 1 have already indicated the differences in earnings and unemployment in Utah and the United States emanating from the extent of educational preparation. Obviously, the more the better.

Available Employment and Training Programs

Numerous programs support employability development. Those from low-income families and workers displaced by shutdowns or major cutbacks by their employers are eligible to be trained or retrained under the Workforce Investment Act, Temporary Assistance for Needy Families and Trade Adjustment Assistance. Other programs offer grants and loans for post-secondary education but none of

them provide subsistence (Table 6).

Table 6: Utah Expenditures and Enrollments of Employment Preparation Programs, 2007-08

Program	Expenditures	Enrollments
Workforce Investment Act	6,563,814	6,105
Temporary Assistance for Needy Families	2,272,321	9,665
NAFTA/TAA	1,943,282	434
Custom-Fit Training	3,109,276	19,715
Vocational Rehabilitation	63,545,683**	21,997**
Federal Perkins Loans	8,209,920	3,000*
Stafford Loans and Other Federal Loan Programs	404,322,773	94,722*
Federal Work Study	5,000,372	2,101
Supplemental Educational Opportunity Grants	4,334,742	7,404
Leveraging Educational Assistance Partnership	1,797,049	3,800
Pell Grants	79,519,539	41,068
T.H. Bell Teaching Incentive Loan	1,588,315	403
New Century Scholarships	1,663,016	475
Educationally Disadvantaged	2,072,522	1,170
Western Interstate Commission for Higher Education.(medical)	1,553,200	84
Needs-based Grants and Loans	2,576,555	3,512
Utah Centennial Opportunity Program	6,400,500	6,834
Resident Tuition Waivers	20,664,888	
Non-resident Tuition Waivers	42,551,226	

*Numbers of loans
** Total expended, number served; $40,669,237 for education and training and 3,310 employed as result
Sources: State Department of Workforce Services and State Board of Regents.

Among other sources, Job Corps Centers in Clearfield, South Weber, and in Salt Lake City are a more attractive option for youth from low-income families than usually supposed. Enrollees live on site with free housing, food, clothing and medical treatment. They receive a $100 per month stipend and a $1200 bonus on successful completion. Free transportation home on weekends is provided and there are two-week vacation breaks in mid-summer and at Christmas time. English-as-second-language, general education diplomas (GED) and high school diplomas plus vocational education in a variety of trades are all available without tuition cost. Upon completion of the vocational trade program, the student can attend Weber State University, Salt Lake Community College or the Davis Applied Technology College with all expenses paid.

Youth Employability Services (YES) conducted by Salt Lake and Tooele Counties is an example of other programs available around the state to assist youth from low-income families to continue their career preparation. YES is available to 16-21 year-olds from Salt Lake and Tooele County families with poverty level incomes. Eligible youth must be U.S. citizens or legal permanent residents who "face significant barriers to success, such as being a parent, having language or cultural barriers, or lacking life

or work skills." The program's primary purpose is to encourage youth from these families who are struggling in school, have dropped out or have continued high school with difficulty to continue on into post-secondary education. It provides grants and scholarships for post-secondary education and vocational training, mentoring from adult case managers, life skill training such as time and conflict management, tutoring and study skills, referrals to other community services, incentives and bonuses to reward efforts and accomplishments, and follow-up services to support continued success. Adult education is also available to offer ESL and GED opportunities to low-income adults who lack those. Those who complete these programs average substantial gains in earnings.

Apprenticeship and OJT

Acceptance of any job involves some extent of at least informal on-the-job training to instruct the employee how the particular assignments are conducted in that particular workplace. Longer durations and greater formality of training are required as tasks become more complex and skill requirements increase. Whatever the formalities, on-the-job training requirements are rarely documented except within the context of formal apprenticeship. The amount of on-the-job training, the hiring of those to be trained and the pay received during and after that training is primarily the decision of the employer, though sometimes but increasingly less often than in the past, influenced by labor unions representing the employees. As of July 2009, 3611 apprentices employed by 406 employers in Utah were registered with the federal Bureau of Apprenticeship and Training. Traditionally in most of the nation, apprenticeship has been a joint management/labor relationship governed by collective bargaining negotiations. Nationally that is less true today and certainly in Utah. However, certain rules are imposed by the U.S. Department of Labor's Bureau of Apprenticeship and Training and tradition still has its influence as well. Among those rules is the fact that, though how to do the job is learned on the job, there is usually academic attainment from related subject matter better taught and learned in the classroom than on-the-job. Formally and increasingly, therefore, apprenticeship and on-the-job training are partnership enterprises between the employer and the schools.

Applied Technology Preparation

The School of Applied Technology at the Salt Lake Community College and the eight-unit Utah College of Applied Technology, along with the applied technology education offerings of most of the state's universities, deserve special attention as bridges out of poverty and roads to family-sustaining earnings. Each of the state's colleges and universities includes a program of career technical education which provides a nonacademic graduation certificate upon completion. Originally, most high schools within the state provided vocational education programs but many gradually merged those into district or wider applied technology centers. In 2001, in recognition of the growing importance of formal career

preparation and the need for a second chance by adults inadequately prepared for family-sustaining earnings, the state legislature transferred these originally high school level applied technology centers to the State Board of Regents as the Utah College of Applied Technology (UCAT) with originally nine and now eight regional colleges. Table 7 provides the numbers of students of a wide range of ages obtaining a wide range of vocational and technical skills for very low cost at each of these institutions. All can be completed in one or two academic years and many in shorter time through competency-based education discussed below. High school students can attend and graduate without paying tuition at the UCAT schools and by concurrent education at most of the others. UCAT and the SLCC School of Applied Technology charge only for the hours of actual in-classroom attendance rather than by semester. All of these institutions can be attended with Pell Grants and other public funding by those eligible as shown in Table 6. For-profit schools provide similar training but without taxpayers sharing the costs except for those eligible for federal funding.

Table 7: Enrollment at Regional Colleges of Utah College of Applied Technology , 2007-2008

School	Adult	High School	Total
Bridgerland Applied Technology College	5,396	2,114	7,510
Davis Applied Technology College	5,215	1,968	7,183
Dixie Applied Technology College	2,208	642	2,850
Mountainlands Applied Technology College	3,676	1,881	5,557
Ogden Weber Applied Technology College	6,772	2,277	9,049
Salt Lake Tooele Applied Technology College*	1,583	351	1,934
Southwest Applied Technology College	1,393	1,080	2,473
Uintah Basin Applied Technology College	3,519	1,488	5,007
Total UCAT	29,722	11,801	41,563

*On 1 July 2009 the Salt Lake component merged with the Salt Lake Community College Skill Center as the School of Applied Technology.

Note: The occupations for which these students were being trained are listed in the Utah System of Higher Education 2009 Data Book, which can be obtained online.

Table 8 specifies successful completion during 2007-2008 of Career Technical Education programs which are defined in the 2009 Data Book of the Utah System of Higher Education as programs designed to "provide skills for entry-level employment while laying the foundation…for more advanced technical skills needed for lifelong career development, education pathways to help students explore interests…, second chance education and training for the unemployed and those seeking to upgrade their employability skills, …earn additional degrees … [for] career advancement, and…skills upgrades and refresher courses for those already in the workplace.[5]

Table 8: Career Technical Education Degrees Awarded, 2007-2008

Institution	1 yr. Certificate	2 yr. Cert.	Associate	Bachelor	Total Awards

[5] USHE Data Book, 2009, Tab D.

University of Utah	0	0	0	1,335	1,335
Utah State University	0	3	11	859	873
Weber State University	44	0	728	1,029	1,801
Southern Utah University	0	2	10	389	401
Snow College	0	43	181	0	224
Dixie State College	480	100	159	101	840
College of Eastern Utah	0	51	133	0	184
Utah Valley University	0	27	615	704	1,346
Salt Lake Community College	528	217	1,199	0	1,944
Utah College of Applied Technology	12,211	1,441	32	0	13,684
Total	13,263	1,844	3,068	4,417	22,632

One of the reasons for the UCAT development was to create a career ladder so that someone trained as a technician who later yearned to move on to, say, engineer status, would not have to go back to the high school level and start over, but could simply add on to previous education and training what more was needed to attain a bachelor's degree. But in the midst of the pushing and shoving of the lobbying accompanying the legislation, the legislature slipped up.[6] UCAT enrollees can attain a one-year certificate or a two-year associate degree from the various programs. But, unlike the students of other higher education institutions, UCAT students cannot transfer their certificates and associate degree credits to the four-year institutions and move on directly to bachelor's degrees. That failure needs remediation. Everything learned at a College of Applied Technology may not be relevant to the four-year bachelor's degree programs, but everything that is relevant should be transferable and should contribute to ultimate graduation. Then, for instance, someone trained as a technician and afterward yearning to move on to engineer level could do so without having to go back to the high school graduation level and start over. There would be a realistic career ladder.

Competency-based Education and Concurrent Enrollment

Two recent innovations of the Utah career preparation system deserve recognition here. The K-12 classrooms and the classrooms of higher education generally share the concept of seat-time. There are academic years made up once of academic quarters and now of academic semesters. Course content is adapted to the amount of time available. But some learn more quickly than others. The course is adapted to the average learner and the slower learners struggle while the faster learners are bored. Technical training has the advantage that what is to be learned can be identified and designated. Learning rather than teaching becomes the primary objective–as it should be in all education. Course content can be individualized. Students can progress at their own speed and go to the instructor or fellow students when assistance is needed. The instructor stays available for individualized instruction. When several students

[6] Garth Mangum and Richard Maxfield, *Career Preparation Prospects and Challenges of the New Utah College of Applied Technology*, The Consortium of Employability Development, University of Utah, August 2001.

need the same information, they can be gathered for joint instruction, but there are no day after day, every hour lectures. Students learn, submit to tests, usually computerized, pass successfully or restudy, and move on. UCAT catalogues provide the average numbers of hours of attendance for completion of each occupational preparation but the actuality varies widely in each direction. Rather than fixed semester tuition cost, students pay by the hour of actual attendance.

The other notable innovation is concurrent enrollment in high school and college. The high school student, while preparing for graduation, enrolls simultaneously at a higher education institution at no tuition cost and pursues an associate's degree program simultaneous with meeting high school requirements. Students who complete both high school and associate degree requirements by the September following their high school graduation time—and have a transferable associate's degrees--can then receive a New Century Scholarship which pays 75% of the tuition and textbook costs of their junior and senior years, assuring economically the completion of at lest the bachelor's degree component of their education.

Vocational Rehabilitation

Vocational rehabilitation, provided in Utah by the State Office of Rehabilitation Services, seeks to enable the physically, mentally and emotionally disabled to overcome their disabilities to the extent that they can become successfully employed. Those efforts include both remedying the disabilities to the extent possible and providing education and training such that the individual can be successfully employed despite the disability. For instance, in 2008, 21,455 individuals received vocational rehabilitation services resulting in the successful employment of 3,310. Of the funding, 64% was spent for education and training–everything from on-the-job training and applied technology to academic graduate schools--with the remainder spent on diagnosis, physical and mental restoration, assistive technology and miscellaneous costs. Whereas the totality of those served earned $261,592 a week before treatment and training, they earned $1,333,123 a week after rehabilitation services—a 510% increase resulting in an estimated $15,944,151 annual tax payment by the recipient earners.[12]

Academic Degree Availability

Table 9 lists the numbers of academic degrees granted by Utah public and private universities and colleges during academic year 2007-2008. Except for the certificates, each degree can be a step upward toward the following degree. These certificates and those certificates and associate's degrees of the Applied Technology Colleges should be applied as well to that upward career staircase climb.

Table 9: Degrees and Awards by Institution, 2007-2008

Institution	Certificates	Associate's	Bachelor's	Master's	Doctorate	First Professional	Total

[12] *Annual Report of the Utah State Office of Rehabilitation*, *FY 2008*, pp. 12-15.

University of Utah	358	0	4,882	1,611	397	270	7,518
Utah State University	8	376	3,005	852	97	0	4,338
Weber State University	5	1,677	1,881	195	0	0	3,797
Southern Utah University	5	209	880	262	0	0	1,356
Utah Valley State College	47	2,072	1,189	0	0	0	3,308
Snow College	43	616	0	0	0	0	659
Dixie State College	580	741	150	0	0	0	1,471
College of Eastern Utah	57	312	0	0	0	0	369
Salt Lake Community College	745	2,902	0	0	0	0	3,647
Brigham Young University	20	0	6,995	1,079	76	154	8,324
Westminster College	22	0	432	203	0	0	657
LDS Business College	184	303	0	0	0	0	487
Total	2,093	8,852	19,757	4,202	570	424	35,898

Source: Utah System of Higher Education 2009 Data Book Tab B. The occupations prepared for in these enrollments are listed in the same source.

Adequate Financing of Pre and Post-Secondary Education

Advocating universal post-secondary education and training, of course, raises the issue of affordability. Expansion of pre-school enrollment would be a mix of taxpayer and parental expenditures. The costs of increases in k-14 education as advocated here would be a taxpayer burden but would not necessarily involve higher tax rates. The expected results of the increased and improved pre-school, elementary and secondary education would be increased access to post-secondary education and skill training followed by improved employability and earning capacity. Increased earnings would result in increased tax revenues without necessarily involving increased tax rates. The educational reforms advocated herein would occur over substantial periods of time involving substantial debate over innumerable issues, including costs and revenue sources and amounts.

Moving to post-secondary education costs, members of low-income families ordinarily do not obtain as much education as the economically more fortunate, but is that because they cannot afford it, are not prepared for it, or simply do not choose to pursue it? More likely they either have not perceived its value or never have considered it available to them, often because they do not consider themselves adequately prepared. Obviously, there are financial obstacles other than tuition and books, but those at least are generally available. Table 6 lists the total expenditures and total enrollments of the most significant publically-provided grant, scholarship and student loan programs. Many employers also pay for work-relevant education and training programs for their employees. Vocational rehabilitation, described above, pays for the education and training of many of the physically and mentally disabled. As a matter of fact, there are enough grant programs to pay the out-of-pocket costs of employment-oriented education and training for most of those who cannot afford to pay their own costs. For the rest, there are student loans if they and their families lack the resources to pay the immediate costs. Significant numbers of private scholarships are also available. There are ample obstacles to further education and training, but

tuition and related costs should not be among them. Grants to pay for the education of those otherwise condemned to a low-income lifetime is a sound public investment repaid by subsequent taxes. Student loans repayable at reasonable interest rates are also a sound investment for the individual, all of whom should be counseled to recognize that fact.

In preparation for those decisions, the relevant tasks are to prepare children and youth at earlier stages so that they will be competent to pursue post-secondary education and skill training, convince them that doing so will be essential to enabling themselves to attain family-sustaining earnings, and then mentor and encourage them to believe they can do it. Then bring back those who missed out the first time through and offer and persuade them to take advantage of a second chance to achieve that goal. Education as preparation for employment and earnings is both a personal investment and a community investment. Return to Table 1 as an example. At each step up that education and training ladder annual income increases by about one-third. Most of the primary and secondary education costs were met publicly while the post-secondary costs were privately and publicly shared. But the current public investment is privately provided by taxation of those who profited most from the taxation of their predecessors, as well as from those who are advantaged by a more prosperous economy staffed by the better-prepared. Furthering the education investment can be depended upon to increase both private incomes and public revenues.

The public policy challenge, then, is to provide the funding and undertake the public investment in pre-school, extended year k-12 education accompanied by remedial guidance, improved instruction in troubled schools and, ultimately, k-14 publically-financed education, as much as possible of it competency-based, all dedicated to preparing young people for and encouraging older people with visible second chance opportunities to take advantage of and return to higher education and/or skill training sufficient to prepare them for and make available to them employment at family-sustaining earnings—and to be taxed on that added income to assist the next generation. The challenge is obvious. Let's get at it.