



Active Learning



Active listening

Instructing

Speaking

Critical Thinking

TOMORROW'S WORKFORCE NEEDS

2004-2014 Skill-Based Projections
Midplains Region

Learning Strategies

Reading comprehension

Monitoring

Writing

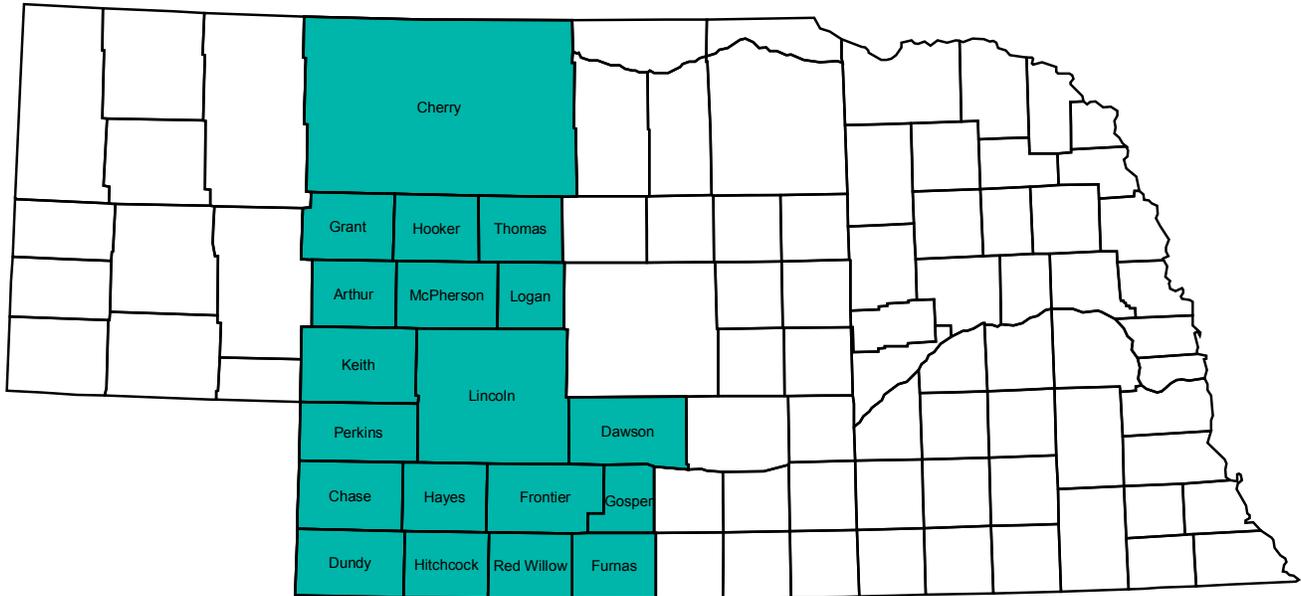
Coordination



Special Note:

The Midplains Region of Nebraska includes the counties of:

- Arthur
- Dawson
- Furnas
- Hayes
- Keith
- McPherson
- Thomas
- Chase
- Dundy
- Gosper
- Hitchcock
- Lincoln
- Perkins
- Cherry
- Frontier
- Grant
- Hooker
- Logan
- Red Willow



Introduction and Methodology

Skills can be defined as developed aptitudes or abilities; critical to successful on-the-job performance. Furthermore, occupations require unique combinations of skills; making it a challenge to match an individual's skill 'set' with a specific job. Projected surges or declines in employment across all occupations correspond with the changing demand for specific skills.

The 21st century has introduced an increased interest in the relationship between skills and occupational supply and demand. Public officials, educators, economic developers, and employment specialists want to know which skills will be in demand and where they fall in terms of the future employment needs of our workforce. To assist in identifying these skills, the Projections Managing Partnership, sponsored by the U.S. Department of Labor and the Employment and Training Administration developed Skill-Based Projections (SBP) software.

The SBP system uses statewide and regional occupational employment projections in combination with a nationally standardized occupational database known as the Occupational Network (O*NET) database. Three components of this database, (**skills, knowledge, and work activities**), are applied to existing occupational projections data. Thirty-six uniquely identified skills and 33 knowledge elements describe workers; or those seeking employment. The third component, generalized work activities, can be performed by all workers across all types of occupations; and is therefore a descriptor of jobs.

For example, the basic skill of Active Listening is of extreme importance to the Registered Nursing profession. To estimate the potential skill shortage of Active Listening, it is multiplied by the number of projected openings for Registered Nurses over the next ten years. This number is then ranked in comparison with the remaining identified skills so that we have an idea of which skills will be most needed in the coming years. This process is applied to each occupation in each region of Nebraska.

Skills, knowledge, and generalized work activities are then measured in terms of importance and level of aptitude required to perform the duties within each occupation. If a skill, element of knowledge, or specific work activity is of moderate importance and moderately required for successful job performance, the element is assigned to the occupation. It is important to note that the skills and knowledge of individuals who are unemployed or not seeking employment are not included in skills projections.

The SBP system also provides a list of potential 'critical skills' for a region. The Skills Gap Index is calculated to highlight potential for skill gaps between current worker supply and future demand by measuring the difference between the two. Demand refers to total projected openings; or openings due to growth plus net replacement openings. The result produces a ranking on a scale from 1-100, with the greater the score, the more likely a skills gap will occur. Skills found to have a high skills gap index score are expected to be 'critical' for the projected period.

What will be needed in Nebraska's Midplains Region?

The needs of this region can be determined by matching worker traits, job-oriented descriptors, and 'critical skills' with the following components:

Current Supply is an employment count of workers across all occupations. Skills, knowledge elements, or work activities are listed for each occupation and multiplied by the number of individuals working in that occupation. Skills can also span a number of occupations, (i.e. active listening is an important skill for both registered nurses and customer service representatives.) so it is likely that occupations will be counted multiple times (i.e. customer service representatives will be counted under active listening as well as under the skill of speaking).

Projected Demand refers to total projected openings; calculated as the sum of openings due to growth and openings due to replacement. When employment change is negative across the projections period (2004-2014), growth is zero and the projected demand is comprised only of openings due to worker replacement.

Skills Gap Index for each job requirement is a standardized measure of the difference between the current supply and projected demand; the higher the index score, the more likely a skills gap will occur.

Replacement Index is the proportion of total openings due to net replacements rather than growth; the higher the value, the greater the proportion of openings that are replacements, not new jobs.

Table 1: Current Skill Supply

SKILLS

O*Net skills are broken down into separate domains including basic, complex problem solving, resource management, social, systems, and technical. Table 1 shows the current occupational skill supply in the Midplains

Skill Job Requirements	Current Supply 2004	
	Nebraska	MidPlains Region
Reading Comprehension	435,015	3,805
Active Listening	415,745	2,399
Speaking	355,921	1,898
Critical Thinking	302,141	2,009
Writing	301,273	1,664
Active Learning	272,849	1,849
Instructing	248,959	1,061
Coordination	248,019	3,842
Learning Strategies	245,606	1,271
Monitoring	239,394	1,357

Region. Of these, eight are considered basic skills, or those that facilitate learning and knowledge acquisition, and two are social skills, used to work with people to achieve goals.

The number of highlighted basic skills means that today's workers are aware of the environment around them as an avenue for continued growth and personal development. They recognize that there is much to be learned and go about their workplaces in search of ways to improve job performance.

The remaining skills, coordination and instructing, are social skills. These are the necessary competencies that help employees work together successfully. These specific social skills in the Midplains Region suggest that workers can adjust their actions in relation to others' actions, are aware of and understand why coworkers react as they do and finally, are able to coach other coworkers.

It is expected that by 2014, 631 job openings requiring the basic skill of reading comprehension will need to be filled in the Midplains Region. This means that the skill of reading comprehension is at least moderately important to have in order to do the job, and that this skill is required at least at a moderate level or higher. Active listening, speaking, and critical thinking are skills that will also be in demand for the occupational growth of this region.

Table 2: Selected Skills Overview

Geography	Nebraska 2014			Midplains Region 2014		
Projections Horizon	2004-2014					
Skill Job Requirements	Projected Demand	Skills Gap Index	Replacement Index	Projected Demand	Skills Gap Index	Replacement Index
Reading Comprehension	14,747	100	59	631	89	66
Active Listening	14,225	97	60	583	3	67
Speaking	12,397	94	58	466	14	64
Critical Thinking	10,539	91	56	399	6	63
Writing	10,598	89	57	379	17	65
Coordination	8,617	77	55	377	100	60
Social Perceptiveness	8,020	71	57	360	26	63
Instructing	9,144	86	54	354	37	61
Active Learning	9,607	83	56	352	9	66
Learning Strategies	8,993	80	55	339	23	64

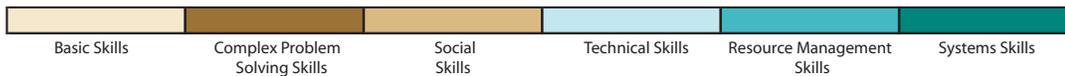
The skills gap refers to the potential gap between the current supply and projected demand in occupations requiring these skills at a moderate level. A large skills gap does not mean that currently employed workers lack a particular skill. It is an index referring to the balance of employment size with projected demand for occupations requiring that skill. The skills gap index identifies the ranked order of anticipated training needs. Within the Midplains Region, a skills gap index of 100 indicates a very high likelihood that training in reading comprehension will need to occur in order to meet future demand. One example of an occupation in which the skills appearing in table 2 could be considered ‘critical’ (i.e. reading comprehension, active listening, active learning, and instructing), is a pharmacy technician. In the Midplains Region, this occupation is expected to grow from 72 in the year 2004 to 84 in 2014, a 16.7% change in employment. The skills gap indices for skills comprising a pharmacy technician are anticipated gaps, since qualified workers will be required to fill the vacancies.

Skill gap information should be closely examined in order to better compare the projected growth and the number of new openings with the projected replacement, which shows the job openings expected to occur due to turnover or retirement, etc. For example, 66% of job openings in occupations with at least a moderate requirement for reading comprehension are projected to occur because of replacement. In other words, just over 416 openings in the Midplains Region will be due to job turnover. The remaining 34%, or about 215 job openings, should be openings due to growth. This reveals a need to continue training programs that support the acquisition of these skills.

Table 3 shows the top 10 skills by education level in the Midplains Region. The table indicates that higher educational level occupations have a greater need for additional training in the basic skills category. The other categories of skills appear more frequently in occupations requiring less education.

Table 3: Selected Skill Gap by Occupational Preparation in the Midplains Region

Masters Degree	Writing	Time Mgmt	Speaking	Social Perceptiveness	Service Orientation	Reading Comprehension	Persuasion	Negotiation	Monitoring	Learning Strategies
	100	97	94	91	89	86	83	80	77	74
Bachelors Degree w/ Work Experience	Reading Comprehension	Coordination	Writing	Speaking	Monitoring	Judgment and Decision Making	Critical Thinking	Active Listening	Active Learning	Time Mgmt
	100	97	94	91	89	86	83	80	77	74
Bachelors Degree	Writing	Reading Comprehension	Critical Thinking	Complex Problem Identification	Active Learning	Monitoring	Judgment and Decision Making	Active Listening	Time Mgmt	Learning Strategies
	100	97	94	91	89	86	83	80	77	74
Associates Degree	Writing	Time Mgmt	Speaking	Social Perceptiveness	Service Orientation	Reading Comprehension	Persuasion	Monitoring	Mathematics	Learning Strategies
	100	97	94	91	89	86	83	80	77	74
Post-Secondary Training	Writing	Speaking	Reading Comprehension	Active Listening	Time Mgmt	Social Perceptiveness	Service Orientation	Negotiation	Monitoring	Critical Thinking
	100	97	94	91	89	86	83	80	77	74
Long Term OJT	Troubleshooting	Reading Comprehension	Installation	Equipment Maintenance	Operation Monitoring	Mathematics	Equipment Selection	Complex Problem Identification	Active Learning	Quality control
	100	97	94	91	89	86	83	80	77	74
Moderate OJT	Installation	Troubleshooting	Repairing	Equipment Maintenance	Active Listening	Coordination	Mathematics	Equipment Selection	Complex Problem Identification	Social Perceptiveness
	100	97	94	91	89	86	83	80	77	6
Short-Term OJT	Repairing	Equipment Maintenance	Troubleshooting	Social Perceptiveness	Operations Analysis	Operation Monitoring	Operation and Control	Installation	Critical Thinking	Coordination
	100	97	94	91	89	86	83	80	77	74
Related Work Experience	Operation and Control	Coordination	Reading Comprehension	Time Mgmt	Speaking	Monitoring	Critical Thinking	Active Learning	Mgmt of Financial Resources	Writing
	100	97	94	91	89	86	83	80	77	74



Troubleshooting and installation are technical skills that appear in occupations such as General Maintenance & Repair Workers, Home Appliance Repairers, and Security & Fire Alarm Systems Installers. Technical skills will also be needed primarily in occupations with fewer educational requirements and greater on-the-job training experiences. Jobs requiring on-the-job training or other related experience may also have a greater need for Resource Management Skills, although these skills play a large role in occupations throughout all training levels.

Generally speaking, it is important to note, that the most highly projected skill deficiencies from all educational preparation levels center on the Basic Skills (i.e. Reading Comprehension, Speaking, and Writing). Data indicates the lower preparation levels have greater technical skill gaps than do the upper job preparation levels. In contrast, those at the upper levels need training in systems and complex problem solving skills.

Table 4: Suggested Critical Skills for the Midplains Region

Skill Job Requirements	2004-2014				
	Projected Demand	Skills Gap Index	Replacement Index	Replacement Openings	Growth Openings
Reading Comprehension	631	89	66	414	217
Active Listening	583	3	67	390	193
Speaking	466	14	64	299	167
Critical Thinking	399	6	63	251	148
Writing	379	17	65	246	133
Coordination	377	100	60	226	151
Social Perceptiveness	360	26	63	225	135
Instructing	354	37	61	216	138
Active Learning	352	9	66	231	121
Learning Strategies	339	23	64	216	123

To qualify as a critical skill, the skills gap index along with the replacement index must be analyzed. Replacement and growth openings are calculated using the projected demand and replacement index.

Across all education levels, Table 4 lists critical skills that are comprised of 7 basic skills and 3 social skills. The following is a partial list of growing occupations in the Midplains Region that require all 10 of the critical skills: licensed practical nurses; lodging managers; occupational therapists; special education teachers; mental health counselors; and registered nurses. It is crucial to remember that labor turnover is grounded in cause and effect relationships within the larger economy, and as such, the type of turnover can be an excellent indicator of economic health. Growth openings confirm a vibrant labor market with an increased need for trained workers, while a large number of replacement openings may indicate a mix of jobs that do not have a clear-cut career path, are low skilled, low paying, or have less than favorable working conditions.

Remember that the higher the skills gap index, the greater likelihood of experiencing a future gap in skill availability. The replacement index indicates the percent of projected demand that is due to labor turnover rather than business growth.

KNOWLEDGE

Most work situations require a specific set of learned facts and standard requirements. Knowledge job requirements, like skills, are found in occupations as a 'set' that help to define an occupation, or occupational group. This section describes knowledge job requirements using the same units of analysis as the skills and later on in this report, the work activities sections; projected demand, skills gap index, and replacement index.

Table 5 describes the projected 2014 demand in the Midplains Region, across all educational levels, in which the top 10 knowledge job requirements occur in occupations. Occupations that require two or more of these knowledge elements are: waiters & waitresses, truck drivers, teacher assistants, sheriffs & deputy sheriffs, real estate sales agents, personal & home care aides, kindergarten teachers, industrial machinery mechanics, electricians, and automotive master mechanics. Each of these occupations are considered 'hot jobs' in this region.

Table 5: Selected Knowledge Requirements for the Midplains Region Compared to the State

Geography	Nebraska 2014			Midplains Region 2014		
Projections Horizon	2004-2014					
Knowledge Job Requirement	Projected Demand	Skills Gap Index	Replacement Index	Projected Demand	Skills Gap Index	Replacement Index
Customer and Personal Service	13,109	100	60	118	91	43
Administration and Management	2,313	73	63	64	100	73
Psychology	3,014	88	51	54	64	43
Medicine and Dentistry	1,865	79	45	45	24	42
Mechanical	2,258	70	64	39	88	67
Food Production	298	18	75	35	97	77
Mathematics	3,651	91	59	27	73	63
English Language	5,379	97	57	23	85	65
Building and Construction	1,282	61	60	23	76	48
Computers and Electronics	2,251	82	48	19	70	58

Unlike the other regions in Nebraska, the skills gap and replacement index values are radically different when comparing the Midplains Region to Nebraska Statewide. In this region, replacement indices across knowledge elements compared to the state indicate that the openings will likely be due to growth and demand rather than replacement and separation (Remember that if the replacement index = 100, all openings are due to job turnover. A score of 0 indicates total growth openings.). Knowledge of food production processes has the most similar replacement index values with the State; with 75 of every 100 openings being due to turnover and the Midplains region having 77. Other knowledge requirements showing anticipated growth in the Midplains Region include customer & personal services occupations, psychology-related occupations, and medical/dental occupations.

Notice also in Table 5 that the greatest difference between replacement index scores is in occupations requiring customer & personal services knowledge. Statewide, 60 jobs out of every 100 are replacements for existing workers, while in the Midplains Region, only 43 jobs are due to replacement. This indicates that there will be an increased need for additional customer service workers in this region to offset demand. Lodging Managers, Respiratory Therapists, Tellers, Customer Services Representatives, and Hotel, Motel, & Resort Desk Clerks are just a few examples of occupations that require knowledge of customer & personal services, and are expected to be in high demand through 2014.

WORK ACTIVITIES

Work activities are job behaviors in the work environment. Getting information needed to do the job, is the work activity projected to be in highest demand through 2014 in the Midplains Region. establishing & maintaining interpersonal relationships over time and communicating with supervisors, peers, or subordinates round out the top three work activities expected to be in highest demand. Table 6 compares this information for the area to the State.

Getting information needed to do the job is the required work activity projected to have the highest demand, with just over 11,000 job openings in Nebraska and just over 200 openings in the Midplains Region by 2014. This requirement is found in high-demand occupations, such as police, fire, & ambulance dispatchers, reporters & correspondents, claims examiners, and computer support specialists.

Table 6: Selected Work Activities for the Midplains Region Compared to the State

Geography	Nebraska 2014			Midplains Region 2014		
Projections Horizon	2004-2014					
Work Activity Job Requirement	Projected Demand	Skills Gap Index	Replacement Index	Projected Demand	Skills Gap Index	Replacement Index
Getting information needed to do the job	11,166	98	56	204	100	54
Establishing and maintaining interpersonal relationships	17,008	100	62	175	85	53
Communicating with supervisors, peers or subordinates	10,066	90	58	165	98	58
Handling and moving objects	9,491	80	64	158	73	58
Monitoring processes, materials or surroundings	7,393	83	50	144	93	44
Organizing, planning and prioritizing work	9,934	93	55	136	71	47
Updating and using job-relevant knowledge	9,954	95	55	130	76	46
Making decisions and solving problems	8,201	88	51	126	61	45
Identifying objects, actions, and events	7,838	85	51	126	95	55
Performing general physical activities	6,838	71	65	110	63	53

Two activities, getting information to do the job and establishing & maintaining interpersonal relationships are projected to produce a demand of nearly 400 openings in just the Midplains Region, however, both requirements may appear within the same occupation. For example, reporters & correspondents, claims examiners, insurance underwriters, loan counselors, and pediatricians are a few occupations that require both work activities on the job. According to the skill gap indices, training to accommodate these work activities will be necessary not only for workers replacing those lost due to replacement, but also for new entrants due to employment growth.

Of the top work activity elements listed in Table 6, monitoring processes, materials, or surroundings is predicted to account for the greatest amount of hiring due to growth, with 56% (or 80 projected openings). This means that occupations requiring this work activity are projected to experience growth greater than the projected replacement need in the Midplains Region. The remaining 44% of openings will be due to turnover. Trends for statewide work activities are similar to those shown in the Midplains Region. High-demand and fast-growing jobs in which monitoring processes, materials, or surroundings is at least moderately important are home health aides, carpenters, and welders, cutters, solderers, and brazers.

SUMMARY

Each of the selected occupations in Table 7 corresponds with one or more of the identified “critical skills” listed on page 3 at the 80th percentile for importance to this job and at an equally high level of ability. These occupations can also be found in the “Hot Jobs” list as identified in the 2004-2014 Nebraska Occupation Projections (NebraskaWorkforce.com) and are anticipated to have a minimum of five average annual job openings in this time period. These occupations may also experience above average growth rate, rate of pay, or a combination of these factors.

Table 7: ‘Hot Jobs’ for Nebraska Requiring Critical Skills

Occupations	2004-2014 Occupational Projections				Most Commonly Required Education Level
	2004 Estimates	2014 Projected Demand	Percent Change	Average Annual Job Openings	
Education Administrators, Elementary & Secondary School	118	135	14.40	5	Master's Degree
Education Administrators, Postsecondary	101	124	22.80	5	Master's Degree
Computer Software Engineers, Applications	120	157	30.10	5	Bachelor's Degree
Elementary School Teachers	962	1136	18.10	38	Bachelor's Degree
Middle School Teachers	248	280	12.90	9	Bachelor's Degree
Secondary School Teachers	368	424	15.20	16	Bachelor's Degree
Special Education Teachers, Preschool, Kindergarten, & Elementary School	91	117	28.60	5	Bachelor's Degree
Pharmacists	108	150	38.90	5	Master's Degree
Licensed Practical & Licensed Vocational Nurses	537	613	14.20	20	Associate's Degree / Postsecondary Certificate

Between 2004 and 2014, the Midplains Region is expected to maintain an occupational growth rate of 6.9%; slower than the state’s growth rate of 10.8% although this growth depends on the economic health of the industries in the area as well as the consistent supply of qualified workers needed to fill job openings. A comprehensive list of occupational employment estimates and the education and/or training requirements are provided in the above-referenced Occupational Projections.

The Midplains Region can also expect slower industrial growth than is projected for the State. The largest growth within this region should occur within Administrative & Support & Waste Management & Remediation Services, with 34.7% growth followed by Real Estate & Rental & Leasing industries at 26.7% by 2014. When combined, these two industries are expected to contribute 404 new jobs to the region. The third largest growth sector is Health Care & Social Assistance, reporting a projected growth rate of 23.7%, or approximately 1,334 additional jobs over the ten year period. These figures point out the need for preparing workers to meet the occupational demands brought on by this industry growth, as well as to communicate and train local industry to successfully compete with and maintain efforts for continued and diversified growth in related industry fields. This will help offset losses in Agriculture, Forestry, Fishing & Hunting Industries, (which are expected to decline by 6.7% by 2014), and assist in providing flexible employment situations for presently skilled workers being forced out of their present manufacturing jobs.



*Equal Opportunity Employer/Program
Auxiliary aids and services are available upon request
to individuals with disabilities.
TDD: 1.800.833.7352 • Lincoln: 402.471.2786*

