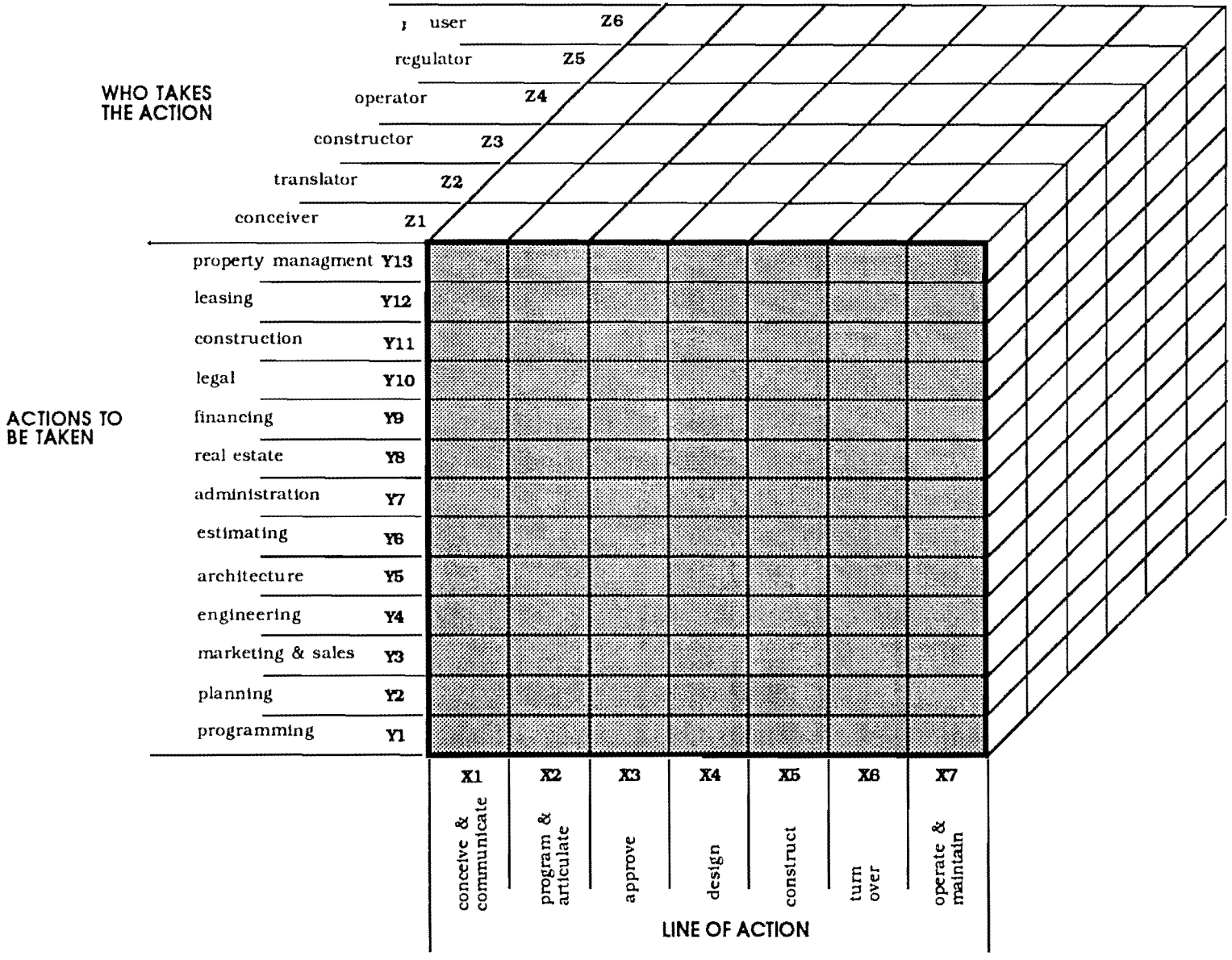
Your Role in Mentoring and Coaching

MENTOR

A wise and trusted counselor, coach, or teacher.

[Mentor - a tutor in Homer's Odyssey]

MACRO MATRIX BOUNDARIES OF DESIGN AND CONSTRUCTION



Mentoring and coaching subject list
Ferris State University
Big Rapids, Michigan

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Consulting Engineer

Information, training and education topics in which mentoring and coaching is often needed for professional, technical, and business success - listed alphabetically

1. Alternative dispute resolution - resolving conflict on construction projects
2. Applying situational thinking - thinking and reasoning effectively for good decision-making
3. Basic project management software tools for the designer & constructor
4. Better understanding yourself - improving your personal skills
5. Business principles of the architectural/engineering business - what are the elements of successful business practices - non financial
6. Claim prone job characteristics - what are the signals of a bad job?
7. Closing out the project - how do you get out of the project once you have built it?
8. Codes and ordinances - what is the role of public, semi public and private regulation and how is it used effectively
9. Collections, retention & final payment - the methods and reasons for proper payment practices, and the effects of retention on project performance
10. Common causes of contested claims - what are the most common construction troubles?
11. Construction contract characteristics - what are the various methods by which design and construction projects are managed?
12. Construction management & what it is, and what it is not - the liable, non liable, agency, contractor types and what they mean to the owner and others
13. Contract document packaging on dovetailed projects - assembling bid packages on fast track projects
14. Contract law and its impact & effect on the architect/engineer - what are the legal needs of the designer & how is the law relevant to the designer?
15. Controlling office overhead - causes, helps and methods by which the office overhead can be controlled
16. Costs committed vs. money spent - how committed and actual money flows on a project
17. Creativity and how it is achieved - the six basic elements of being creative in construction
18. Decision making
    - 18.1. Principles
      - 18.1.1. PMI techniques
    - 18.2. Techniques
      - 18.2.1. Franklin method
      - 18.2.2. Weights & values
      - 18.2.3. Heirarchal method
      - 18.2.4. Priority system
19. Decision making tools for the professional - principals of making useful and reliable decisions
20. Defining goals and objectives - how do you plan where you want you and your organization to go?
21. Designing lean useful forms - basic principles of designing and using design and construction related forms
22. Developing a consistent working glossary of terms - developing a vocabulary for accurate communication on a project
23. Dismissal from the project - the basic principles of dismissal for cause and dismissal for convenience
24. Dispute resolution - binding and non binding dispute resolution and what they are
25. Documentation types, processes, & levels - how to properly and most economically document your construction project
26. Effective meetings - methods of planning, organizing, conducting and documenting meetings to get results
27. Effective pre bid meetings - the agenda subjects and the management of good pre bid meetings

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28. Elements of business and management - basic building blocks upon which free enterprise organizations can be successfully managed
29. Elements of true profit - the types and nature of profit in business
30. Employing the power of training - how to train effectively
31. Ethics in the design and construction profession - the value added by ethical behavior and how to add it
32. Evaluating impacts on project progress and design - determining what impact various disruptions have on a construction project
33. Focusing on vital targets - how to separate the various degrees of problems encountered and concentrate on the most important first
34. Fundamentals of good management - how does the good manager do it?
35. How do we achieve true profit? - the meaning of profit as applied to all participants in a design and construction program
36. Identifying the problem job - the characteristics of a problem job and how they show up early in the program and design stages
37. Identifying the problem job - the characteristics of a problem job and how they show up early in the program and design stages
38. Improving your people skills - general methods of improving your abilities to work effectively with people
39. Improving your people skills - general methods of improving your abilities to work effectively with people
40. Incentives and disincentives as a risk control tool - the use of rewards and penalties to stimulate improved project performance
41. Iterative estimating to a guaranteed maximum price (gmp) - estimating to a cap price by controlling the cost through proper design and continuous value engineering
42. Keeping accurate records - the importance of record keeping and how to balance record keeping with the needs for the records
43. Keeping accurate records - the importance of record keeping and how to balance record keeping with the needs for the records
44. Kinds of estimates and how they're used - the various methods of estimating available to the construction professional
45. Management forms
    - 45.1. General management
      The overarching managment of a group of functions, projects, and other kinds of operations. Usually this managment group is considered to be the top executive and administrative personnel in the organization. At any point in time any of the top general management staff could be called upon to be a functional or a project manager.
    - 45.2. Functional management
    - 45.3. Project managment
      - 45.3.1. Selection of project delivery systems
      - 45.3.2. Monitoring the project
46. Management styles and their relation to success in the owner, designer or construction organization
47. Managing by exception - a method of managing to the actual needs of a project
48. Marketing design and construction services - various methods of finding markets, developing your place in the market, and working effectively in the developed market area
49. Measuring and monitoring performance - how to measure your progress toward defined goals and objectives
50. Network planning & critical path method - basic and advanced methods of planning and scheduling your design and construction work

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51. Nine steps to becoming a good project manager - the nine essentials thinking practices of good managers
52. Participants in the construction profession - the five basic participants in planning, design, construction, operation and regulation of the building profession and how they interact
53. Partnering - how to use it as a preventive technique in avoiding or lessening construction related destructive disputes and conflict
54. Planning and scheduling the architectural and engineering production process - how to apply effective tools and techniques to properly model the construction project and simulate impacts on the job
55. Preparing and using check lists - the use of check lists as a planning and follow up tool to insure ongoing attention to important management details
56. Preparing and using contract document matrixes - how to package contract documents for use in fast track projects
57. Principles of effective communication - improving personal and organizational skills in conveying ideas and data to others
58. Principles of good field inspection for the design team - the importance of design checks and balance on field operations and how to achieve it
59. Principles of organization for the design and construction professional - key principals of organization and staff structuring for effective action - how do the various parties in a design and construction program best interact with each other to achieve the project mission & objectives?
60. Problem solving - the methods by which solutions to problems are approached, analyzed and solutions discovered
61. Processing revisions - the importance and methodology of making least cost changes to a project in progress
62. Professional behavior in the design and construction business - a restatement of some of the basic principles of professional behavior in our business and why it is important to our success
63. Professional service contract characteristics - agency and contracting methods for planning, design, and consulting services.
64. Profit and its role in success - the types of profit and why they are important to the various participants in the construction profession
65. Project delivery systems - what are the various methods of assembling, selling, obtaining and managing a construction project?
66. Project management - its nature, rationale, & practice
67. Project money flow - the flow of the money resource on a design and construction project and why this flow is important to all involved
68. Real estate development and its relation to the construction process - the role of property control in setting parameters for the planning, design, construction and operation of a facility
69. Resolving conflicts - design and construction conflict resolution and effective ways of achieving it
70. Resource allocation for success - how to properly assign resources and avoid potential profit loss
71. Risk management as a decision tool - properly assigning risk as a method of achieving a balanced profit
72. Roles and duties of the architect/engineer field administrator - how the design team best interacts with others during the construction stage of a project
73. Scheduling construction work - principles of deriving good schedules from good job plans.
74. Starting up the project - what are the essential ingredients needed to properly start a design or construction project?
75. Technography and its design and construction - useful methods of in-meeting note taking to improve and expedite decision making

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76. The function and role of construction business participants
"What do all of these people we know and deal with, do for a living, and what do they have to do with my project?"
77. The macro matrix of the design & construction industry - the large picture of the design and construction profession and why it is important to understand
78. The nature of risk - what risk is and the methods by which it is best allocated
79. Thinking & reasoning effectively - improving your thought processes for improved performance
80. Time management - how to manage time as a resource
81. Tracking project cash flow - the use of planning and scheduling tools as applied to the financial resources available for project financing
82. Translating the project network model - various methods of translating information about a project into different graphic languages for better management and control potential
83. Using intelligent questioning - the how and why of questioning techniques and how they help insure project success
84. Value engineering - when and how is it best used to improve the cost effectiveness of installation and operation of construction components
85. Weather and its impact on construction - what are the criteria for building weather considerations into a project plan and schedule
86. What is total quality management (TQM) - really? - is there such a thing?
87. Writing good project programs - the role of the early, well written project program - what it is and how it affects project success
88. Writing good reports - always a needed subject & always good to review in conjunction with other communication subjects
89. Yardsticks by which to measure project success - how do you know when you've done a good job, and how do you develop a set of standards by which success is determined

Mentoring and coaching subject list
Ferris State University - Construction Department
College of Technology
Big Rapids, Michigan

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Information, training and education topics which are needed early in a planning, design, and construction career and which are appropriate for peer or superior mentoring - listed alphabetically

1. Applying situational thinking - thinking and reasoning effectively for good decision-making
2. Creativity and how it is achieved - the six basic elements of being creative in construction
3. Decision making tools for the professional - principals of making useful and reliable decisions
4. Defining goals and objectives - how do you plan where you want you and your organization to go?
5. Developing a consistent working glossary of terms - developing a vocabulary for accurate communication on a project
6. Effective meetings - methods of planning, organizing, conducting and documenting meetings to get results
7. Employing the power of training - how to train effectively
8. Ethics in the design and construction profession - the value added by ethical behavior and how to add it
9. Fundamentals of good management - how does the good manager do it?
10. Improving your people skills - general methods of improving your abilities to work effectively with people
11. Network planning & critical path method - basic and advanced methods of planning and scheduling your design and construction work
12. Nine steps to becoming a good project manager - the nine essentials thinking practices of good managers
13. Planning and scheduling the architectural and engineering production process - how to apply effective tools and techniques to properly model the construction project and simulate impacts on the job
14. Principles of effective communication - improving personal and organizational skills in conveying ideas and data to others
15. Problem solving - the methods by which solutions to problems are approached, analyzed and solutions discovered
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17. Project money flow - the flow of the money resource on a design and construction project and why this flow is important to all involved
18. Resolving conflicts - design and construction conflict resolution and effective ways of achieving it
19. Scheduling construction work - principles of deriving good schedules from good job plans.
20. Technography and its design and construction - useful methods of in-meeting note taking to improve and expedite decision making
21. Thinking & reasoning effectively - improving your thought processes for improved performance
22. Time management - how to manage time as a resource
23. Using intelligent questioning - the how and why of questioning techniques and how they help insure project success
24. Writing good reports - always a needed subject & always good to review in conjunction with other communication subjects

date printed: November 12, 1996

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About Ralph J. Stephenson, P.E.

Ralph J. Stephenson, P.E., is an engineering consultant who has a diversified background in land planning , facilities location, building design, and construction.

Mr. Stephenson earned degrees at Lawrence Institute of Technology (Bachelor of Science, Mechanical Engineering), and Michigan State University (Master of Science, Civil Engineering). He has been associated with such firms as Smith, Hinchman, and Grylls, Victor Gruen Associates, Benjamin Schulz Associates, and the H. F. Campbell Company. With the latter three organizations Mr. Stephenson occupied executive positions as vice president. In 1962 he started his own consulting practice, specializing primarily in providing operational and management direction to owners, designers, and contracting firms.

He is a registered professional engineer in Michigan, Wisconsin, Illinois, Indiana, Ohio, Pennsylvania, West Virginia, Virginia, Florida, and Minnesota. He is a member of the Engineering Society of Detroit, the Michigan and National Society of Professional Engineers, the American Planning Association, the Detroit Area Economic Forum, and the Mid-America Economic Development Council.

Since 1952 Mr. Stephenson has been involved at middle and upper management levels in the planning, programming, design, construction, and operation of several billion dollars worth of construction related projects. These include work on industrial, commercial, and institutional programs throughout North America.

Mr. Stephenson has chaired more than 30 project partnering charter meetings for both public and private sector projects, and has lectured extensively on the subjects of alternative dispute resolution and partnering. He has also recently completed a book on Design and Construction Project Partnering for John Wiley & Sons.

He has also taught hundreds of technical and management seminars in the United States, Canada, and Europe and is the author of several magazine articles and is the co-author of a book on critical path method. His broad experience has given him an understanding of the nature of small, medium, and large size companies, and of the need to solve their management problems through creative, systematic, and workable approaches.