Personal Skills

Final Report

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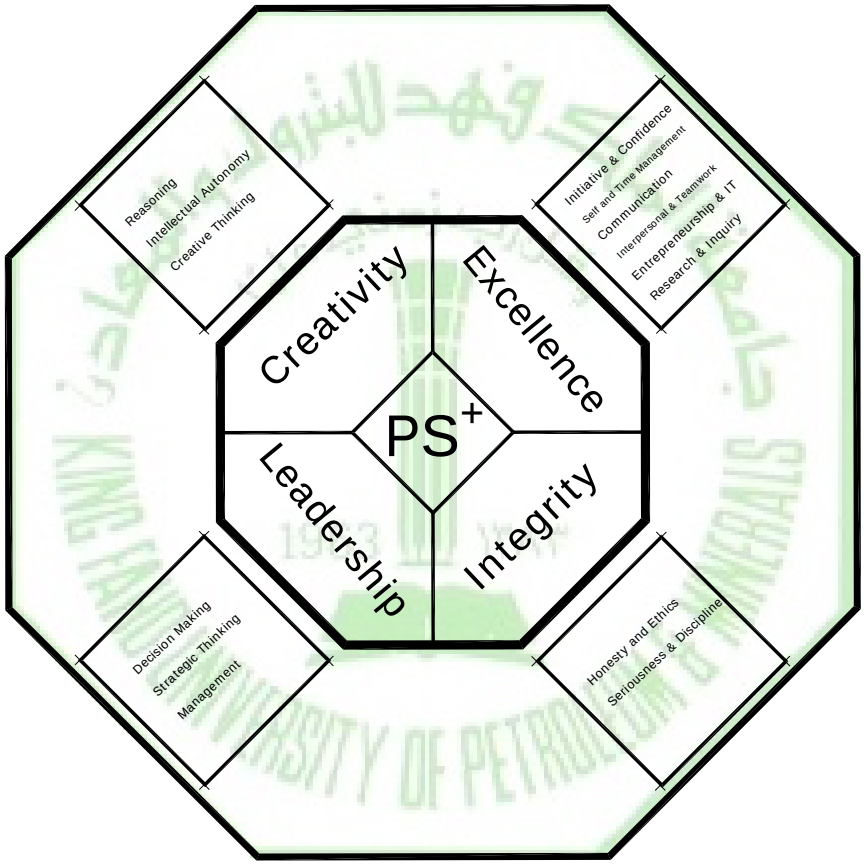
Introduction

The KFUPM mission statement enforces the issue of “Preparing professionals empowered with the knowledge, skills, values and confidence to take a leadership role in the development of the Kingdom in the fields of science, engineering, environmental design and business”. In order to accomplish this mission, a personal skills model has been developed along with an implementation process to integrate personal skills into the academic curriculum. The proposed model as well as the implementation process will be discussed within the KFUPM community through discussion forums. Active participation and convection of KFUPM faculty members are of paramount in order to enhance the skills of KFUPM graduates and transform such personal skills model into reality.

1. Personal Skills Model



1.1 Rationale

The proposed model is developed to reflect the latest KFUPM mission statement and values within a coherent framework of personal skills that can be integrated within the academic curriculum in both design and delivery. Concurrently, the proposed model reflects and takes into account the most important graduate qualities required specifically by the local market and generically by the region and worldwide. The core graduate qualities of KFUPM included in this Model will help in preparing professionals empowered with the knowledge, skills, values and confidence to take a leadership role in the development of the Kingdom in the fields of science, engineering, environmental design and business. These qualities include: Leadership (Decision making, Strategic thinking, and Management); Integrity (Honesty and ethics, and Seriousness and discipline); Creativity (Creative thinking, Reasoning, and Intellectual autonomy & problem solving; and Excellence (Initiative & confidence, Self and time management, Communication, Interpersonal & teamwork, Entrepreneurship & IT, and Research & inquiry).

1.2 Key Features of the Personal Skills Model

1.2.1 Leadership

It is the process of successfully influencing the activities of a group towards the achievement of a common goal. A leader has the ability to influence others through qualities such as personal charisma, expertise, command of language, and the creation of mutual respect.

1.2.1.1 Decision making *includes:*

- Identifying appropriate evidence and weighing up that evidence to make a choice (for example, gathering and assessing information to find the best way to perform an experiment).
- Taking responsibility for a decision and its outcomes (for example, choosing a topic for a group presentation from a number of suggestions).

1.2.1.2 Strategic Thinking *includes:*

- *Ability to understand and apply terms, concepts and theories to a range of texts and in a variety of contexts,*
- *Solve problems and apply scientific reasoning,*
- *Monitor the environment, develop strategies and capitalize on change.*

1.2.1.3 Management *includes mentoring, delegation, and motivating others*

Mentoring *includes:*

Being a trusted advisor and helper with experience in a particular field. Actively supporting and guiding someone to develop knowledge and experience, or to achieve career or personal goals (for example, a third-year student mentoring a first year student, helping to adjust to the university experience).

- A mentoring relationship may be formal or informal, but must involve trust, mutual respect, and commitment as both parties work together to achieve a goal (for example, mentoring a younger member of a team to achieve better performance in the lead-up to a sporting event).

Delegation *includes:*

- Taking responsibility for determining when to ask someone else to make a decision or carry out a task (for example, figuring out what is a fair distribution of the workload in a group project, and sharing responsibility with others).
- Distributing responsibility and authority in a group by giving someone else the discretion to make decisions that you have the authority to make (for example, as the chosen leader of a lab experiment team, you could assign tasks and decisions to different group members).

Motivating others *includes:*

- Generating enthusiasm and energy by being positive, focusing on finding solutions and maintaining a positive attitude even when things are not

going well (for example, when something goes wrong, asking "What can we try now?" instead of saying, "That should have worked better.").
- Encouraging others to come up with solutions, listening carefully to their ideas and offering constructive feedback (for example, gathering suggestions for a group project, and giving each person's ideas fair discussion).
- Being prepared to support others in taking agreed, calculated risks, and not blaming others when things go wrong (for example, one group member's portion of a presentation receives a poor mark - make sure that this student isn't blamed by the group, and focus on learning from the mistakes).

1.3 Integrity

1.3.1 Honesty and Ethics *include:*

Students will hold personal values and beliefs consistent with their role as responsible members of local, national, international and professional communities. They are expected to communicate fairly with positive, as well as negative, messages.

1.3.2 Seriousness and Discipline *include:*

The aim is to provide all students the opportunity to develop positive self-control, successful interpersonal skills, self- direction, self-understanding, and the self-worth that comes with knowing that you are achieving your academic goals while maturing as an individual. Students have to be punctual, meet and respect deadlines.

1.4 Creativity

The process by which individuals or teams produce novel and useful ideas.

1.4.1 Reasoning *includes:*

Reasoning is the act of using reason to derive a conclusion from certain premises, using a given methodology. The two most commonly used explicit methods to reach a conclusion are deductive reasoning and inductive reasoning. The specifics of the methods of reasoning are of interest to such disciplines as philosophy, logic, psychology, and artificial intelligence.

1.4.2 Creative Thinking *includes:*

Creative thinking is the intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered from, or generated by, observation, experience, reflection, reasoning, or communication, as a guide to belief and action.

1.4.3 Intellectual autonomy & Problem Solving *includes:*

Considering the learning process, autonomy has to do with the learner. Learner autonomy is viewed as an individual awareness of one's potentials and strategies to take better advantage of one's learning context .

1.5 Excellence

Excellence is the state or quality of excelling. It is superiority, or the state of being good to a high degree. Excellence is considered to be a value by many organizations, in particular by schools and other institutions of education, and a goal to be pursued.

1.5.1 Confidence & Initiative *include:*

Confidence is the trust or faith in a person or thing and mainly on self (self-confidence); while initiative is the power or ability to begin or to follow through energetically with a plan task, enterprise and determination.

1.5.2 Self and Time Management *includes:*

Identification of own strengths, limitations and self improvement. Maintaining self-control and accepting responsibility for own behavior and constructive criticism. Continuous self evaluation and seeking self improvement opportunities.

1.5.3 Communication *includes:*

The students should understand that "Communication" is a concept that has three dimensions: Knowledge, abilities and skills. Communication skills that are important for KFUPM students to master are-

- Verbal communication skills such as: writing, reading, speaking, presenting, negotiating and debating.
- Non verbal communication skills such as: body language and related cultural aspects.

1.5.4 Interpersonal &Teamwork *include:*

Working with others in a group towards common goal. This requires cooperating with others, being responsive to others' ideas, taking a collaborative approach to learning, and taking a responsibility for developing and achieving group goals.

1.5.5 Entrepreneurship & IT *include:*

The students should be trained to develop and entrepreneurial mind with necessary skills such as creativity, risk taking, market understanding and IT skills.

1.5.6 Inquiry & Research *include:*

The students should be trained through different projects, term papers, senior and coop projects to develop a systematic investigation of a matter of interest or a scientific research. The emphasis in this endeavor is on methodology, data collection, data processing and analysis.

1.6 Levels of Personal Skills adopted from SCANS[1]

1.6.1 Levels of Leadership

Level	Leadership
1	• Understands standards • Adheres to standards
2	• Encourages others to adopt new concepts • Demonstrates commitment to excellence • Leads by example • Interprets positions on issues
3	• Motivates others to extend their capabilities • Displays enthusiasm/positive attitudes • Develops minority/majority views
4	• Persuades others to reverse negative attitudes/behaviors • Maximizes strengths/ minimizes limitations • Consolidates varied viewpoints / positions
5	• Empowers individuals/teams to achieve excellence • Judges leadership styles • Justifies positions/policies

Level	Decision Making
1	• Understands decision making process • Recalls basic rules/principles • Identifies goals and constraints
2	• Applies rules/principles to situation • Gathers information
3	• Analyzes situation/information • Considers risks/implications • Compiles multiple viewpoints
4	• Generates alternative solutions • Evaluates alternative solutions • Formulates plan of action • Predicts outcome/result based on experience/prior knowledge
5	• Judges consistency/ precedence • Justifies purpose/result • Sets decision making parameters

Level	Strategic Thinking
1	• Understands standards • Adheres to standards
2	• Applies standards • Collects information regarding local & global environment including regulations, policies
3	• Demonstrates commitment • Works to improve team skills • Encourages/supports team members
4	• Assumes responsibility for accomplishing team goals • Understands strengths/ limitations • Resolves conflicts • Responsibly challenges existing policies
5	• Develops strategies for reaching objectives • Monitors changes in environment, regulations or policies that may affect objective • Capitalizes on changes on environment, regulations or policies towards achieving objectives

[1] Stevenson, R. and Royer, M. (1999), Developing, Integrating and Assessing Skill Standards, Guide Book – Volume I: Skills Standards, Center or Learning Connections, Highline Community College, Des Moines, WA.

Level	Management
1	• Recognizes job tasks • Distributes work assignments
2	• Matches talent to positions • Analyzes work assignments • Delegates responsibilities
3	• Assesses individual knowledge/skills • Determines workload (quality/quantity) • Monitors performance
4	• Proposes hiring/ reassignment / staffing adjustments • Plans expansions/reductions/ reassignments/retrenchments
5	• Forecasts future workloads • Plans staff development • Evaluates performance

1.6.2 Levels of Integrity

Level	Honesty and Ethics
1	• Recognizes ethical issues • Identifies personal societal values
2	• Demonstrates honesty • Demonstrates trustworthiness • Accepts responsibility for own • behavior
3	• Demonstrates commitment to personal/social improvement • Analyzes personal/societal implications of decisions • Recommends ethical course of action
4	• Responsibly challenges unethical practices/decisions • Formulates ethical course of action
5	• Justifies ethical decision/ course of action • Demonstrates social awareness/ responsibility

Level	Seriousness and Discipline
1	• Attends regularly • Demonstrates punctuality • Performs assigned tasks
2	• Follows rules/policies /procedures • Employs level of concentration • Volunteers for special assignments
3	• Works with minimal supervision • Pays attention to details • Demonstrates enthusiasm/ optimism/ initiative
4	• Monitors performance standards • Follows up on assigned tasks
5	• Exhibits commitment to organization • Exerts effort and perseverance • Ensures work quality

1.6.3 Levels of Creativity

Level	Reasoning
1	• Identifies facts and principles • Identifies the problem
2	• Applies rules/ principles to process/ procedure • Extracts information/ data • Uses logic to draw conclusions
3	• Analyzes logic/rule/ principle • Examine information/ data for relevance and accuracy
4	• Creates/develops new rules/ principles • Adapts rules/principles to new applications
5	• Validates rules/ principle • Judges logical consistency

Level	Creative Thinking
1	• Makes connections between old and new • Recognizes patterns/ relationships
2	• Paraphrases/summarizes/ generalizes existing ideas • Demonstrates creative thinking process while problem solving • Utilizes brainstorming techniques
3	• Develops creative solutions • Applies creative solutions to new situations
4	• Generates unique solutions • Formulates new Ideas /plans/ approaches • Organizes new processes / procedures
5	• Judges/validates creativity • Actively pursues creative expression

Level	Intellectual Autonomy & Problem Solving
1	• Identifies the problem
2	• Understands the complaint/ discrepancy • Appropriately refers complaint/ discrepancy
3	• Examines information/ data • Analyzes possible causes/ reasons • Recommends action plan
4	• Generates/evaluates solutions • Devises/implements plan of action
5	• Evaluates/adjusts plan of action • Judges effectiveness/ efficiency of solution

1.6.4 Levels of Excellence

Level	Confidence & Initiative
1	• Maintains positive self-image • Identifies own skills/abilities • Recognizes own emotional capacity
2	• Responds assertively • Defends own beliefs/ viewpoints
3	• Values own individuality • Accepts constructive criticism
4	• Accepts responsibility for own • behavior • Understands own impact on others
5	• Demonstrates self confidence, self reliance, and self discipline • Actively seeks self improvement opportunities

Level	Self-Management
1	• Identifies own strengths/ limitations • Identifies need for self improvement
2	• Maintains self-control • Accepts responsibility for own behavior • Accepts constructive criticism
3	• Sets well defined/realistic goals • Demonstrates commitment to self improvement • Applies self management skills • Analyzes and adjusts goals
4	• Appropriately modifies goals • Aggressively pursues goal attainment
5	• Evaluates self continuously • Actively seeks self improvement opportunities

Level	Time-Management
1	• Starts on time • Follows schedule
2	• Performs given set of tasks • Efficiently manages time • Adjusts schedule as required by supervisor
3	• Prioritizes daily tasks • Prepares schedule • Monitors/adjusts task sequence
4	• Prepares and organizes multiple schedules • Manages timelines • Recommends timeline adjustments
5	• Evaluates project timeframes • Modifies project timeframes

Level	Interpersonal & Teamwork
1	• Identifies with team • Attends closely to team activities • Completes tasks
2	• Obeys team rules • Actively participates in team activities • Volunteers for special tasks • Assists team members
3	• Demonstrates commitment • Works to improve team skills • Encourages/supports team members
4	• Assumes responsibility for accomplishing team goals • Understands strengths/ limitations • Resolves conflicts • Responsibly challenges existing policies
5	• Motivates team members • Evaluates team activities

Level	Communication: Writing
1	• Records information accurately • Completes forms/surveys/etc.
2	• Prepares messages • Writes simple documents
3	• Summarizes/paraphrases information • Composes/edits correspondence • Creates original documents
4	• Synthesizes information • Creates detailed supporting • documents
5	• Evaluates consistency of written • material • Justifies writing

Level	Communication: Presentations
1	• Communicates appropriate verbal/ nonverbal messages • Addresses audience / purpose
2	• Presents basic ideas/ information • Explains concepts • Actively participates in discussions
3	• Presents complex ideas/ information • Analyzes group/ individual response • Poses critical questions
4	• Composes/presents well organized speech • Debates issues • Speaks extemporaneously
5	• Critiques speeches/ presentations • Evaluates information accuracy

Level	Use of Information Technology
1	• Understands computer operation • Performs basic data entry
2	• Utilizes integrated/multiple software • Locates information • Retrieves stored information/data
3	• Manipulates information • Interprets data • Integrates multiple platforms • Utilizes networks • Modifies/edits information
4	• Organizes information and reports • Converts information formats • Composes multimedia presentations • Analyzes operational problems
5	• Verifies data accuracy • Designs programs/networks/graphics • Evaluates computer utilization • Judges information accuracy

Level	Inquiry & Research
1	• Selects appropriate information • Identifies basic concepts
2	• Identifies relevant details, facts, specifications • Follows set of instructions
3	• Probes to gain knowledge /information • Qualifies/analyzes information • Interprets and summarizes • information
4	• Researches to gain knowledge/ information • Proposes options/solutions based on research • Synthesizes information
5	• Critiques publications • Evaluates documents/proposals • Validates content

1.7 Ideas for Integrating SCANS Skills into the Curriculum [2]

1.7.1 Resources

1. Have students help determine how class time can be used to best advantage.
2. Ask students to estimate the length of time a project or assignment will take, and see how close they come. Ask them how they might estimate differently next time. Why?
3. Have students make schedules/pie charts of how they spend their time. Is the ratio consistent with what they value? Are they using their time to best advantage? Discuss. Can we learn to allocate time differently? Can we work smarter to "make more time?" Discuss why the ability to allocate time is an important work skill.
4. Give students a monthly income figure and ask them to prepare a budget. Ask them what they expect to earn when they begin working. Why did they pick that figure? Why would anyone be willing to pay them that much?
5. Have them see that any budget they make in the future will be a result (function) of their skill level. Show students how to make a function machine. Drop a low skill level in the function machine and see what happens.
6. Have students help allocate materials, space, etc. Is current classroom space being used most efficiently? Has anyone ever questioned this? Are seats arranged to optimize learning?
7. Do a skills/learning styles analysis of class members. Determine how each could make the most effective contribution to the class. Take turns utilizing the skills of different class members. Evaluate each others' performance in non-threatening ways, including the instructor's. Provide feedback to each other and ask questions about the feedback.

1.7.2 Basic Skills

1. Have students read and interpret a variety materials; charts, graphs, stories, manuals, schedules, timetables. Ask them to explain to others what they are reading.
2. Have students write a variety of documents; poems, essays, ideas, information, messages, letter, memos, flow charts. Have students exchange papers and edit each others' work. Discuss the importance of writing in a way that is appropriate for the occasion.
3. Ask students to interpret information from charts, graphs, and statistical tables. Help them see how arithmetical concepts are part of a larger system.
4. Give students statistical information and ask them to interpret this. Ask them to determine if certain things are possible. Show how knowledge of mathematics is important for the quality movement.
5. Teach listening skills. (Examples include active listening, interpreting body language, paraphrasing to ensure understanding.) Model these skills as the instructor. Make sure students understand the importance of checking things out.
6. Ensure that students have many opportunities to speak in front of the class and in smaller groups. Make sure they can articulate a point of view so it is clear to listeners. Teach them to "read" their audience so they will know if their message is being received.

[2] Stevenson, R. and Royer, M. (1999), Developing, Integrating and Assessing Skill Standards, Guide Book – Volume I: Skills Standards, Center or Learning Connections, Highline Community College, Des Moines, WA.

1.7.3 Thinking Skills

1. Ask students to think of all of the things that can be done with a .
2. Teach brainstorming, clustering and mind mapping.
3. Ask what would happen if . . .
4. Ask, “What could this become?”
5. Ask students to examine their construct systems, and the construct systems of others. Think of decision making as “the process of arranging and rearranging information into a choice of action.” (This provides an opportunity to show why having access to good information is so important.) Ask students to describe their decision making processes in specific situations. Let them ask questions of each other. Ask them what would happen if they changed the ways in which they arranged or rearranged information. Ask students to identify problems that need solving. Have them frame statements carefully so the “real” problems emerge.
6. Ask students to identify discrepancies between what is and what could/should be, then design strategies for reducing or eliminating the discrepancies. Keep the focus on what they can do. (Generating ideas about how others should behave is not necessarily problem solving.)
7. Have students evaluate and monitor progress of a problem solving activity they have undertaken.
8. Teach visualization to students. Ask them to visualize a finished product, a new process in operation, or their own success.
9. Make sure students know and understand their respective learning styles. Have them articulate both orally and in writing how they learn best.
10. Teach fallacies in reasoning that cause us to make erroneous assumptions about a variety of things.
11. Make sure students understand an array of generalizing principles that can be used in a variety of situations.
12. Teach students about simple syllogisms.

1.7.4 Personal Qualities

1. Discuss the total quality movement, and what it means. Include here the importance of continuous improvement and a value added philosophy. Show how these qualities are necessary for both individual and organizational success.
2. Ask students to maintain skills journals. Have them design resumes or qualifications briefs that include their skills. (Link learning style to self-esteem.)
3. Use listening and questioning skills indicated earlier to help students function successfully in social situations. Design classroom activities requiring a variety of social interaction. Demonstrate “procedures” such as shaking hands, etc.
4. Ask students to describe themselves. This could be both orally and in writing. Have them include strengths, weaknesses, values, interests, dreams, goals, etc. Ask them to share this information with and get feedback from at least one other person.
5. Discuss honesty/integrity. Is there a difference between personal and public integrity? What is it? What are some of the major ethical issues facing us today? What would it take to resolve them?

1.7.5 Interpersonal

1. Organize class into teams. Assign tasks/assignments requiring team members to depend on each other. Assign specific roles in teams. Identify components of effective teams and attributes of effective team members.

2. Make up a problem. Ask each class member to solve it working alone. Then ask them to work in groups, telling each other how they solved the problem. Discuss the difference between working alone and working as part of a group.
3. Have each student teach others a concept/process. Ask them to describe what is going on “in their heads” as they teach, and have others respond to that.
4. Talk about customers. What is meant by a customer driven economy? How can we learn to anticipate and satisfy someone else's expectations? Who are some of the students' customers? Are they fellow students, teachers, administrators, parents, community members? What new customers are they likely to encounter in the future? What skills will they need in order to meet the expectations of these new customers? Who are the instructor's customers? What are students' expectations? How can instructors better satisfy them?
5. Discuss leadership. Define a leader. Why are some people leaders? Are they born that way? Can anyone become a leader? Why do there appear to be so few leaders today? What would it take to change that? Is there a difference between being a leader in math, sports, music, or government? Are there similarities?
6. Ensure that every student has an opportunity to be a leader in class. This means stating a position and convincing/persuading others that the idea has merit. It also means being willing to have one's opinions challenged.
7. Expect every student to be able to challenge something responsibly. This means being able to question for information without ridiculing or putting someone else down. It means generating ideas to improve the common good.
8. Teach students how to negotiate; model these behaviors. Negotiate grades, assignments, contracts, uses of materials and equipment. Negotiate according to learning style. Negotiate for roles in groups.
9. Teach conflict resolution and see in how many ways it can be used. Teach people how to reframe issues and expand construct systems in order to increase the number of available options.
10. Ask students to discuss stereotypes. (Examples might include stereotypes about: people of color, people with disabilities, occupations, people representing different income or educational levels, courses, sexual orientation, gender, age, people who are in corrections institutions, etc.)
11. Discuss pecking orders, feeling left out, being different, etc. Discuss ethnocentricity, different customs, beliefs, etc. Make it clear that they will be required to work and function in a world of diversity upon leaving school. My way or our way may be important to us; but others have ways of being and viewing the world that are equally important to them. What can we do to ensure that everyone is able to contribute and maximize his/her potential? (Many of the concepts here relate to negotiation and conflict resolution.)

1.7.6 Information

1. Rather than giving students answers, teach them how to find their own answers. Use the networking principle. Have them view each other as information resources.
2. Teach students how to interview for information. Use the who, what, when, where, how and why questions. Teach them that there are many ways to frame a question in order to get information.
3. Teach them how to evaluate information. How current is it? How credible is the source? Is the information useful? (This is different from asking whether or not I agree with it.)
4. Discuss what is meant by the statement, “Information is power.” Ask students what information they might need to increase their power base.

5. How can information be stored most efficiently? Ask students how they access information now. (Do they write things down in any kind of order, keep things in their heads, maintain journals, etc.?) As the instructor, share with students how you store and access information.
6. Can students use computer skills to access and maintain information? Show how local businesses and agencies (including your own) do this.
7. How is information classified? Why are classification systems important? How do students classify things? What happens when we change classification systems? What classification systems are used in different school subjects? What is the relationship between personal classification systems, construct systems, and learning styles?
8. Give students different types of information and ask them to interpret it orally, in writing, or both. (This could be a story, a project, a process, a math problem, a conflict.) The major question in interpretation is, "What does this mean?" Have students explain their interpretations until they are clearly understood by others. Determine the implications for members of the class. (What is the connection between interpretation of information and both the legal and criminal justice systems?)

1.7.7 Technology

1. Give students tasks and have them determine the best technology to use. (This may require some research.) Ask them to set up and operate a variety of equipment. Ask them to describe intent and proper procedures for setting up and operating equipment.
2. Teach computer skills to students. Have them write letters on word processors; have them develop a resume—let them move data around. Have them write a variety of cover letters describing their skills. Help them become familiar with many programs.
3. Teach students about the kinds of technology that can help them reach their goals. This is especially important for individuals with learning difficulties.

2. Guidelines for Skills Implementation

General guidelines for both faculty members and academic departments have been developed for the process of implementing the personal skills model at KFUPM.

2.1 Guidelines for Skills Implementation for Faculty Members

Each faculty is expected not only to facilitate learning but also to enhance student skills that prepare KFUPM graduates for their careers and future leadership roles in the society. Therefore, the following guidelines are expected to be exerted:

(a) It is expected that the faculty member will specify in the course syllabus all learning outcomes including the nominated skill(s) to be enhanced in the course.
(b) The course should outline specific activities related to nominated skill(s).
(c) The faculty member is expected to assess the student's performance in relation to nominated skill(s).
(d) KFUPM faculty members are highly encouraged to participate in DAD workshops and discussion forums related to skills infusion into the academic curriculum.

(e) KFUPM faculty members are highly encouraged to share their experiences in skill infusion through DAD discussion forums and the Skills Website Forum.

2.2 Guidelines for Skills Implementation for Department

It is the responsibility of the Academic Department chairmen to facilitate the skills infusion into the academic curriculum. Hence, the following guidelines are expected to be exerted:

(a) Each Department is expected to appoint a representative who will participate in DAD special workshops and serve as the skills advocate and the main link between the Department and DAD skills Task Group.
(b) Skills infusion should become one of the main responsibilities of a Department standing committee such as the Teaching and Learning Committee.
(c) Each Department is expected to prepare a Course Skills Matrix (CSM). The CSM should identify the skills along with related competence levels aligned for each course in the Department Program(s).

3. Skills Implementation Process and Activities

The four main parties to the skills infusion process in the curricular activities are DAD teaching and Learning Center, the department, the faculty member and the students. The committee did a number of brainstorming session and discussions about the activities and the processes that could be used to facilitate skills infusion. The processes that we designed are schematically shown in the flowcharts below. The first flow chart shows DAD-department activities and interactions. The second flowchart shows the interactions between DAD and the faculty members. The last flowchart shows the main activities of the faculty and the student. The different activities are also tabulated in DAD, department, faculty and students activities tables. The tables show also the ways and means for these different activities will be carried out. The process and tables have imbedded process monitoring mechanisms.

Figure 1 shows the process of interaction between DAD and different departments. DAD will propose the skill implementation process and guidelines through a discussion forum. After getting the feedback of faculty and departments, the process will be refined and improved. Each department will appoint a skill's advocate (representative) who will be the link between DAD and the department and will participate in Skills Infusion workshops organized by DAD. Each department will also assign the skill's implementation task to one of the department standing committees that includes the department skill's advocate. The task of this committee is to promote skill's enhancement through curricular activities and to review the program and generate a course–skills matrix. The matrix maps the courses with the relevant skills they enhance through specific activities. This allows the committee to identify the skills that need further enhancement. If important skill deficiencies are identified, then the program and/or some courses should be revised to include activities that remedy any deficiencies. A supplementary elective or required course could also be added to the program to address the skill deficiencies that cannot be delivered through regular program courses.

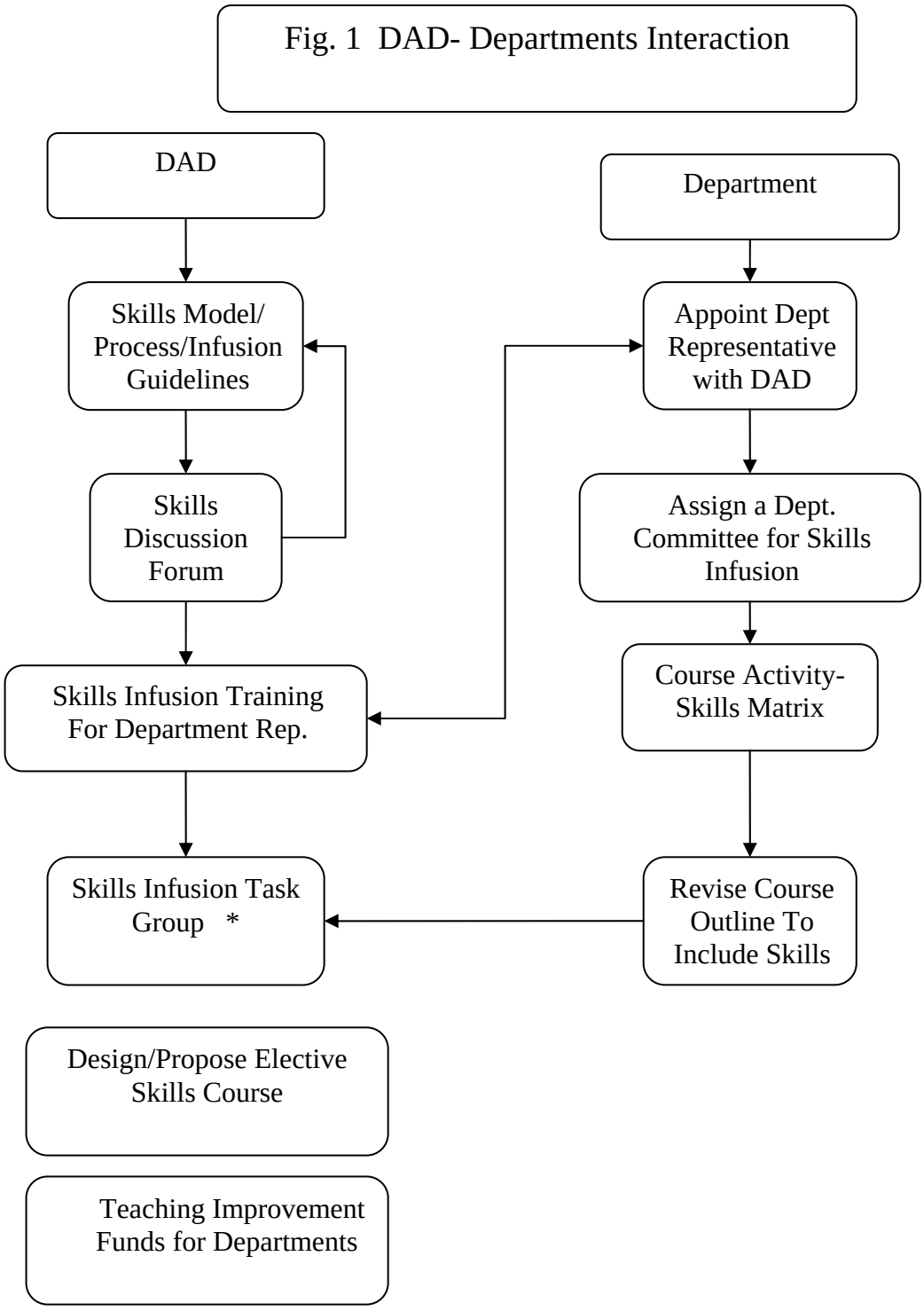
The DAD skills Task Group is in charge of managing the skills infusion process in the curricular activities. The task group shall oversee the implementation, measure the progress and continuously improve the process to achieve the desired objectives. DAD Skills Infusion Task Group will coordinate with the department representative to facilitate the skill's infusion in the department program. The task group shall report to the dean of DAD. The suggested teaching improvement fund (10,000 to 20,000 SR) is allocated to departments in order to promote teaching improvement. This fund can be assigned to departments according to their needs, efforts and progress in the process of skill implementation.

Figure 2 shows the process of interaction between DAD and the faculty members. DAD will organise workshops to train the faculty to enhance student skills. The faculty shall benefit from the offered workshops and if necesssary redesign some courses to include activities and assessment methods that enhance relevant skills. The faculty members can share their experiences through DAD organized forums. DAD will also provide a new website that allows faculty to share their experience. For instance a faculty member may want to share his course syllabus that has learning outcomes, activities and assessment methods that enhance student skills. DAD should also provide motivation for faculty members to enhance skill's learning in their courses. This can be done by providing conference support for faculty who publish about their teaching experience. This

can also be done by sponsoring faculty to participate in skill's delivery short courses and workshops in order to train the trainer. The trained faculty can then train other KFUPM faculty members through DAD workshops and forums. Another method for motivation is to include skill's enhancement as one of the criteria for teaching awards.

Figure 3 shows the process of interaction between the faculty members and the students. The participating faculty members will enhance the skills of students by introducing learning outcomes, activities and assessment methods relevant to those skills. The students will enhance their skills through these curricular activities. In order to monitor the progress of the students they should fill a survey that will determine their skill profile at the beginning of the Bachelor's program. The survey is also filled before graduation to measure the transformation that the students gain through their educational program. The skills profile should be a required document for student's senior, capstone, coop and summer training projects. Besides the skill profile at the beginning and at the end of the bachelor program, the students should give feedback about the skills that they learned through the course evaluation surveys at the end of each course. Through the course evaluation surveys, DAD skills task group will be able to measure improvement of skills implementation in curricular programs. Student will also learn skills through extracurricular activities such as student club memberships, professional associations, event organization and other extra-curricular volunteer activities. These extracurricular activities are promoted through the student counselling and guidance centre and through the deanship of student affairs.

PERSONAL SKILLS PROGRAM ACTIVITIES FLOWCHART



* Skills Infusion Task Group is in charge of managing the skills infusion process in the curricular activities. The task group shall oversee the implementation, measure the progress and continuously improve the process to achieve the desired objectives. The task group shall report to the dean of DAD.

Fig. 2 DAD-Faculty Interaction

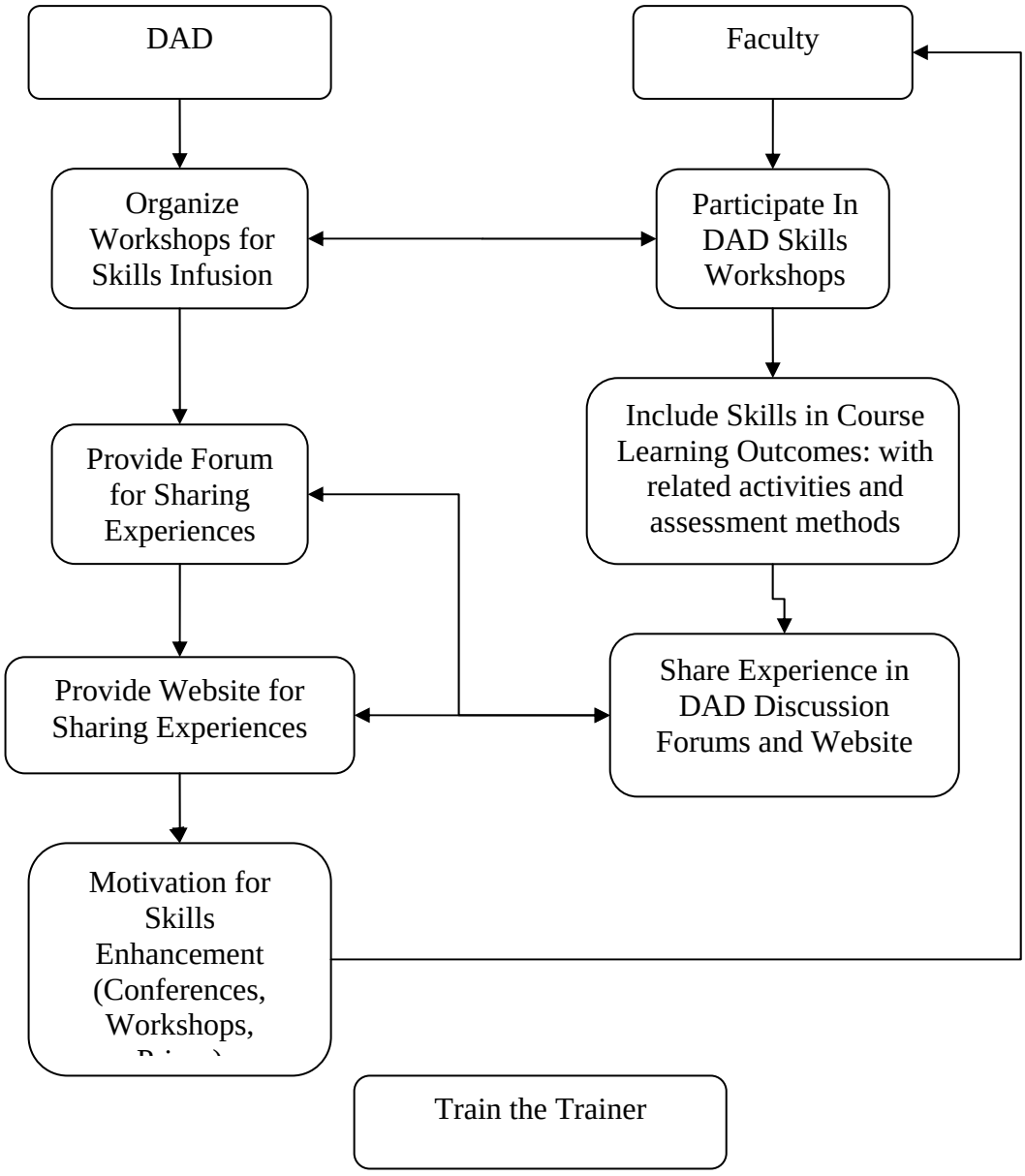
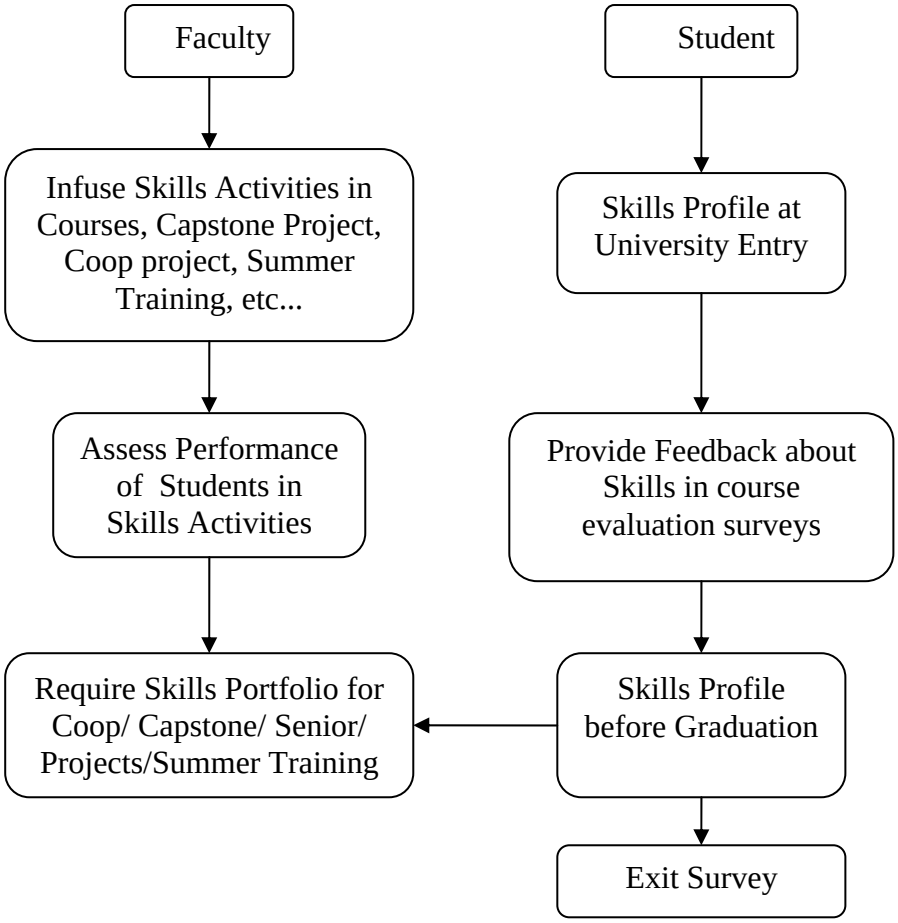
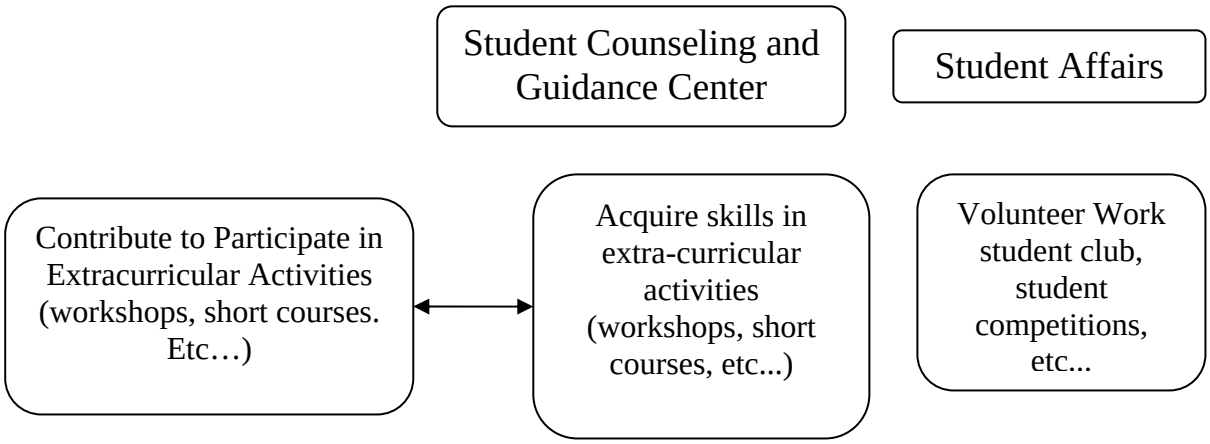


Fig. 3 Faculty-Student Interaction





Skill Implementation Activities

DAD-TLC (Skills Infusion Task Group)

Activity	Ways and Means
• Inform department about skills infusion guidelines in curriculum and Solicit department feedback about Courses / Skills matrix	• Skill infusion guidelines • Course/ Skills matrix
• Discussion Forum about Skills infusion in the curriculum	
• Organize workshops for skills infusion in the curriculum	• Workshops Example: How to mange the Capstone project for best learning experience
• Organize Special training activities for department representatives	• Short Courses
• Have a web site where faculty can share experience in skill infusion in the curriculum	• KFUPM Skill website (skills model, Skills experiences, links, etc…)
• Allocate funds for departments for improving teaching and incorporating skills	• Teaching Improvement Fund • Funds increase or decrease based on achievements
• Surveying employers for KFUPM graduate skills	• KFUPM graduates Employer Survey • Publish survey results on the web
• Survey graduating students about skills acquired through education	• KFUPM graduating students Survey • Publish survey results in the web
• Motivate department/faculty	• Teaching Improvement Fund increase or decrease based on achievements at the department level • Publish course syllabi with learning outcomes in the web • Publish Employer survey results for each department • Publish Graduating students survey results for each department
• Design and propose a new elective course that enhances skills (similar to the study skills course in prep year possibly as an MGT course)	

Department

Activity	Ways and Means
• Provide data on present skills related activities	• Course Activity /Skills Matrix
• Include skill infusion as one of the duties of a standing committees	
• Appoint a faculty to become Dept Representative in DAD	
• Revise course outlines to incorporate skills activities	
• Add DAD skills course as an elective (possibly MIS course)	
• Motivate faculty	• Allocate fund from the Teaching Improvement Fund for resources and activities that enhance skills

Faculty

Activity	Ways and Means
• Acquire the necessary training to enhance student skills	• DAD workshops
• Incorporate skills in the syllabus learning outcomes, with related activities and assessment methods	• Electronic syllabus (standard format) published in the web
• Enhance skills through curricular activities	• Incorporate skills related activities and method of assessment
• Enhance skills through extra-curricular activities	• workshops • short courses • Participate in student extracurricular activities

Student

Activity	Ways and Means
• Acquiring skills through curricular activities	• Course Work • Capstone Project • Summer Training • Coop Project
• Acquiring skills through extra-curricular activities	• Short Courses • Workshops • Volunteer work • Student Clubs • Student Competition
• Skill Self Assessment Survey (before graduation)	• Students Skills Portfolio (required by career office)
• Course/Instructor Evaluation	• Course Evaluation Survey (How much the course enhanced your skills? what skills did the course enhance?)
• Program evaluation	• KFUPM graduating students Survey • Publish survey results in the web for each program

4. Assessment of personal skills embedded in the academic courses

To make personal skills taken seriously by students and of a value, it is desirable to embed them within courses. Listing learning outcomes for each course provides an opportunity for these skills to be made more explicit within the courses and programs. Further, the close relationship that should exist between learning outcomes and assessment criteria will make skills related outcomes easier to assess, as the assessment criteria for a particular learning outcome can indicate how the acquisition of a particular skill can be measured.

Assessment of personal skills should be done through the normal academic assessment process which will contribute to student grades but not separately. The grade should have a significant portion pertinent to the skills. Assessment should take care of validity, reliability, and relevance of the skills to the complete academic experience and later life of the student. The assessment process should demonstrate that the student has acquired knowledge, ability, etc, or he is capable, competent, confident etc.

Each course instructor is expected to state the learning outcomes of his course highlighting the personal skills embedded there and to identify the assessment criteria for each. The departments may do the same learning outcomes and the assessment criteria for each program offered. The grade percentage assigned to each skill should be clearly identified in the course syllabus whenever applicable.

Although not limited to, some suggestions as to how personal skills can be assessed when they are embedded within a scheme of study are given below.

Oral presentations
These can be given by either individuals or through groups, and can be set up in a number of different formats. Peer assessment may be practiced; it may reduce the assessment burden on instructors and encourages further skill development, for example the skills associated with listening and the critical evaluation of evidence.

Written presentations
A number of different written exercises can be set in which the assessment criteria can be more heavily weighted to skills related qualities. These could include reports, review articles, poster presentations, etc. Additionally, essay type of questions may be used to assess such skills. Laboratory reports may also be a tool for assessment of these skills.

Group exercises
These can include assessment criteria that are designed to measure the contribution made by an individual to a group project, or the contribution made by an individual student to a team. Peer or self-assessment could again be used.

Project work/dissertations
Such projects help develop independent learning skills, and research skills. as well as providing one measure through which an individual's information retrieval and management skills can be measured,

Self assessment/Progress portfolios (files)

The student portfolio is a strategically organized documentation and reflection of his performances and accomplishments over the university years. This portfolio will include work products or performance descriptions that the student has produced in class or during out-of-class or work-based activities. Such work products might be class assignments, research or project reports, written feedback or evaluations from others, essays and others.

5. Concluding Remarks

The following concluding remarks are made:

1. A personal skills model has been developed.
2. The proposed model reflects KFUPM mission statement and values within a coherent framework of personal skills that can be integrated within the academic curriculum.
3. An implementation process that integrates personal skills into the academic curriculum has been developed.
4. General guidelines for both faculty members and academic departments have been developed for the process of implementing the personal skills model.
5. Suggestions as to how personal skills can be assessed when they are embedded within a scheme of study are included in the report.
6. Feedback on the proposed model as well as the implementation process will be solicited from all concerned parties.