APPENDIX 1

Examples of business related Service-Learning courses and syllabi

APPENDIX 2

Laying a Foundation for Service-Learning in MBA degree programmes in South Africa

| Proble | Problem 1: Correlate the perceived importance of SAQA's CCFOs to the business sector with the extent of their development through Service-Learning | | | | | | | | |
|----------------------|--|--|---|--|--|--|--|--|--|
| <u>Sub-problems:</u> | | Hypothesis 1.1 | Data collection & Methodology | | | | | | |
| 1.1 | Establish the relative perceived importances of SAQA's CCFOs to players in the business sector | H₀: There are no significant differences between the perceived relative importances of SAQA'S CCFOs to players in the business sector H_A: There are significant differences between the perceived relative importances of SAQA'S CCFOs to players in the business sector | • Re-analyse the CCFO importances dataset from Carmichael and Sutherland (2005), expanded to include another 89 respondents (n = 142) by applying the Kruskal-Wallis one-way ANOVA test and the Tukey- Kramer multiple comparisons test to establish the significance of any differences. | | | | | | |
| 1.2 | Establish the extent to which SAQA's CCFOs are perceived to be differentially developed through Service-Learning | <u>Hypothesis 1.2</u> H₀: There is no positive correlation (alpha = 0.05) between the perceived development of SAQA'S CCFOs through Service-Learning and the perceived requirements of players in the business sector for the CCFOs H_A: There is a positive correlation (alpha = 0.05) between the perceived development of SAQA'S CCFOs through Service-Learning and the perceived requirements of players in the business sector for the CCFOs | Apply Stacey's (2005) Normal Distribution Fitting Algorithm (NDFA) to re-analyse the Likert scale dataset from Carmichael and Sutherland (2005), expanded to include another 89 respondents (n = 142). Apply Stacey's (2005) NDFA to analyse the Likert scale data relating to the development of SAQA's CCFOs through Service-Learning (Population = experienced Service-Learning practitioners: expert opinion) Correlate the perceived importances with the perceived development of the CCFOs | | | | | | |

| <u>Problem</u> students. | evaluate the extent of mat | ching between the business needs of com | Problem 2: Evaluate the extent of matching between the business needs of community organisations and the types of support that could be supplied by MBA students. |
|-----------------------------|---|---|--|
| Sub- | <u>Sub-problems:</u> | Propositions 2.1 to 2.3 | <u>Data collection & Methodology</u> |
| 2.1 | Define the scope of "community organisations" relevant in the South African context | 2.1 The scope of "community organisations" relevant in the South African context extends beyond the non-profit sector | Descriptive statistical identification of the scope of "community organisations" relevant to the South African context by questionnaire to established Service-Learning experts (Population = experienced Service-Learning practitioners: expert opinion). Summary statistics of students' selection of community organisation types for their assignments (Population = student syndicate assignments) |
| 2.2 | Identify the business needs of community organisations in terms of skills development and expert support | 2.2 The business needs of community organisations include skills development, expert support and basic management functions. | Content analysis of community organisations identification of their business needs (Population = community organisations) Summary statistical analysis of student intervention types undertaken through their assignments (Population = student syndicate assignments) |
| 2.3 | Identify the business benefits of MBA Service-Learning to community organisations | 2.3 Community organisations derive business benefits from MBA Service-Learning students | Content and summary statistical analysis of reports from community organisations in response to student interventions from student assignments) Descriptive and Likert-scale analysis (applying Stacey's (2005) NDFA) of the standard CHESP post-course questionnaire on student experiences of a Service-Learning course (Population = MBA S-L students at WBS) |

| Problem 3: Evaluate the extent and general academic quality of student assignments in terms of both functional and CCFO learning | | | | | | | |
|--|--|--|---|--|--|--|--|
| <u>Sub-p</u> | problems: | Propositions 3.1 to 3.5 | Data collection & Methodology | | | | |
| 3.1 | Evaluate the extent of functional course content learning achieved by MBA students as reflected in their assignments | 3.1 MBA students course content learning in Service-Learning courses meets educational standards | Descriptive statistical analysis of course content learning from students' syndicate assignments (Population = student syndicate assignments) Descriptive statistical analysis of comments from community organisations as part of feedback from syndicate assignments (Population = student syndicate assignments) Descriptive and Likert-scale analysis (applying Stacey's (2005) NDFA) of the standard CHESP post-course questionnaire on student experiences of a Service-Learning course (Population = | | | | |
| | | | MBA S-L students at WBS) | | | | |
| 3.2 | Evaluate the extent of CCFO learning achieved by MBA students as reflected in their assignments | 3.2 MBA students learn the CCFOs through participating in Service-Learning courses | • Evaluation of the level (Bloom's taxonomy) of cognitive development of the CCFOs through assessment of student individual assignments (Population = student individual assignments) | | | | |

| Problem 3: Evaluate the extent and general academic quality of student assignments in terms of both functional and CCFO learning | | | | | | | | |
|--|---|--|--|--|--|--|--|--|
| Sub-problems: | | Propositions 3.1 to 3.5 | Data collection & Methodology | | | | | |
| 3.3 | Describe the preferred assessment methodologies used in an MBA Service- Learning course3.3 Reflection with reflective journals are considered to be the most effective assessment methodology for Service- Learning courses | | • Descriptive statistical analysis of the perceptions of the most effective assessment methodologies for Service-Learning Learning (Population = experienced Service-Learning practitioners: expert opinion). | | | | | |
| | | | • Content analysis of student comments on assessment methodology from the standard CHESP post-course questionnaire on student experiences of a Service-Learning course (Population = MBA S-L students at WBS) | | | | | |
| | | | • Evaluation of the depth of reflection achieved by students for each CCFO from their individual assignments (Population = student individual assignments) | | | | | |
| 3.4 | Evaluate the general academic quality of students' Service- Learning assignments | 3.4 The general academic quality of student assignments reflects the integrated and appropriate use of references and follow a logical report structure | students' individual assignments (Population = student individual | | | | | |
| | | 3.5 The depth of reflection by students is positively correlated with the extent of cognitive development as measured by Bloom's taxonomy for each CCFO | Chi square correlation of the depth of reflection with the extent of cognitive development as evaluated from the student individual assignments (Population = student individual assignments) | | | | | |

| | Problem 4: Relate MBA students' preferred Learning Styles to the context of Service-Learning and describe their understanding, experiences, personal growth and insights from attending a Service-Learning course on their MBA programme | | | | | | | | |
|--------------|--|--|--|--|--|--|--|--|--|
| <u>Sub-p</u> | problems: | Propositions 4.1 to 4.2 | Descriptive statistical analysis of the Honey & Mumford Learning Styles Questionnaire applied to MBA students (population = MBA students in South Africa) Content analysis of students' personal experience descriptions in individual assignments (Population = student individual assignments) Content analysis of student personal experience descriptions from | | | | | | |
| 4.1 | Relate MBA students' preferred Learning Styles to the context of Service- Learning | 4.1 MBA students' Honey and Mumford learning styles profiles will not conflict with the reflection requirements of service learning | Learning Styles Questionnaire applied to MBA students | | | | | | |
| 4.2 | Describe MBA students' experiences, personal growth and insights from attending a Service-Learning course | 4.2 MBA students experience personal growth and new perspectives from attending a Service-Learning course and are able to articulate insights to contribute to further MBA Service-Learning course development. | individual assignments (Population = student individual assignments) | | | | | | |

Data Collection:

| Population / data source | Sampling methodology | Hypoth or Prop # | Data required |
|--|-----------------------------------|---------------------|--|
| Existing and expanded CCFO dataset | Convenience | Hypothesis 1.1 | • Re-analyse the CCFO importances dataset from Carmichael and Sutherland (2005), expanded to include another 89 respondents (n = 142) by applying the Kruskal-Wallis one-way ANOVA test and the Tukey-Kramer multiple comparisons test to establish the significance of any differences. |
| | | Hypothesis 1.2 | • Apply Stacey's (2005) Normal Distribution Fitting Algorithm (NDFA) to re-analyse the Likert scale dataset from Carmichael and Sutherland (2005), expanded to include another 89 respondents (n = 142). |
| Experienced Service- Learning | Purposive Service- Learning | Hypothesis 1.2 | • Apply Stacey's (2005) NDFA to analyse the Likert scale data relating to the development of SAQA's CCFOs through Service-Learning (Population = experienced Service-Learning practitioners: expert opinion) |
| practitioners: expert opinion | expert selection | Proposition 2.1 | • Descriptive statistical identification of the scope of "community organisations" relevant to the South African context by questionnaire to established Service-Learning experts (Population = experienced Service-Learning practitioners: expert opinion). |
| | | Proposition 3.3 | • Descriptive statistical analysis of the perceptions of the most effective assessment methodologies for Service-Learning Learning (Population = experienced Service-Learning practitioners: expert opinion). |

| Population / data source | Sampling methodology | Hypoth or Prop # | Data required |
|---------------------------------------|--|---------------------|---|
| Community organisations | Convenience selection from NPO database (Gauteng only) | Proposition 2.2 | • Content analysis of community organisations identification of their business needs (Population = community organisations) |
| WBS MBA Student S-L assignments | The entire population of both PT and FT MBA students in the ODD courses during 2005 and 2006 participated | Proposition 2.1 | • Summary statistics of students' selection of community organisation types for their assignments (Population = student syndicate assignments) |
| from actual implementati | | Proposition 2.2 | • Summary statistical analysis of student intervention types undertaken through their assignments (Population = student syndicate assignments) |
| on | | Proposition 2.3 | • Content and summary statistical analysis of reports from community organisations in response to student interventions from student assignments (Population = student syndicate assignments) |
| | | Proposition 3.1 | • Descriptive statistical analysis of course content learning from students' syndicate assignments (Population = student syndicate assignments) |
| | | | • Descriptive statistical analysis of comments from community organisations as part of feedback from syndicate assignments (Population = student syndicate assignments) |
| | | Proposition 3.2 | • Evaluation of the level (Bloom's taxonomy) of cognitive development of the CCFOs through assessment of student individual assignments (Population = student individual assignments) |

| Population / data source | Sampling methodology | Hypoth or Prop # | Data required |
|---|--------------------------|---------------------|---|
| | | Proposition 3.3 | • Evaluation of the depth of reflection achieved by students for each CCFO from their individual assignments (Population = student individual assignments) |
| | | Proposition 3.4 | • Descriptive statistical analysis of the academic quality indicators and any associations with the achievement of Bloom level 4, from students' individual assignments (Population = student individual assignments) |
| | (those S-L present at | | • Chi square correlation of the depth of reflection with the extent of cognitive development as evaluated from the student individual assignments (Population = student individual assignments) |
| | | Proposition 4.2 | • Content analysis of students' personal experience descriptions in individual assignments (Population = student individual assignments) |
| FT & PT MBA students taking the S-L | | Proposition 2.3 | • Descriptive and Likert-scale analysis (applying Stacey's (2005) NDFA) of the standard CHESP post-course questionnaire on student experiences of a Service-Learning course (Population = MBA S-L students at WBS) |
| ODD course | | Proposition 3.1 | • Descriptive and Likert-scale analysis (applying Stacey's (2005) NDFA) of the standard CHESP post-course questionnaire on student experiences of a Service-Learning course (Population = MBA S-L students at WBS) |
| | | Proposition 3.3 | • Content analysis of student comments on assessment methodology from the standard CHESP post-course questionnaire on student experiences of a Service-Learning course (Population = MBA S-L students at WBS) |

| Population / data source | Sampling methodology | Hypoth or Prop # | Data required |
|------------------------------------|-------------------------|---------------------|---|
| | | Proposition 4.2 | • Content analysis of student personal experience descriptions from the standard CHESP post-course questionnaire on student experiences of a Service-Learning course (Population = MBA S-L students at WBS) |
| MBA students in South Africa | | Proposition 4.1 | • Descriptive statistical analysis of the Honey & Mumford Learning Styles Questionnaire applied to MBA students (population = MBA students in South Africa) |
| Lecturer evaluations | | Proposition 4.2 | Content analysis of post-course lecturer evaluations and student comments |

The Meta-Inquiry Questionnaire



Dear Executive,

Your senior position within your organisation indicates your career success to date, and it is just a small part of this experience and wisdom that I am asking you to share with me in the quest for my PhD.

The topic is an investigation into a new, practical, work and community-based teaching methodology and its impact on MBA competence and performance in the workplace. In order to establish the value of the competencies developed, I need to quantify their value in the organisational context. This is where you come in.

If you would be so kind as to complete the attached questionnaire (it will not take longer than about 7 minutes), and return it to me at <u>carmichael.t@wbs.wits.ac.za</u> or <u>terrihrd@iafrica.com</u>, you will be making an important contribution to improving management education, which should in turn benefit your own organisation.

If you are willing to participate, it will be appreciated if the completed questionnaire could be returned to me by September 20th, which will get it off your shoulders and out of your inbox as rapidly as possible!

Please feel free to contact me on 082 458-9583 if needed.

Many thanks in anticipation of your input.

Yours sincerely,

Terri Carmichael Deputy Director: Special Projects, Wits Business School

University of the Witwatersrand

| PhD Questionnaire 3: Business Executives' expectations of MBA competence |
|--|
| Respondent number For office use only |
| Please only complete this questionnaire if you employ MBA graduates in your organisation |
| SECTION A: Demographics |
| Q1 In the space below, please write the industry sector in which your organisation operates: |
| |
| Q2. Please indicate the number of employees in your organisation (SA only) < 200 201-500 501-2,000 2,000-10,000 > 10,000 |
| Q3. Please indicate the approximate turnover of your organisation (SA only): Less than R2 million per annum R2 to R10 million per annum R10 to R50 million per annum |
| Q4 In the space below, please describe yourself demographically in 5 words |
| |
| SECTION B: Your expectations of MBA graduates |

Q5 In the space below, please list or describe the types of competencies, skills, abilities and / or attitudes that you expect of MBA graduates

SECTION C: Generic Management Competencies

Q6 In your experience, please indicate the extent to which MBA graduates demonstrate each of the following generic competencies:

| | 1 | 2 | 3 | 4 | 5 | |
|---|------------|-----------------|-----------------|----------------|--------------|---------------|
| | Not at all | A little bit | Notice- able | Quite a lot | Very much | Don't know |
| Identifying and solving problems using critical and creative thinking skills | | | | | | |
| Making decisions based on sound, fact-based reasoning | | | | | | |
| Working effectively with others as a member of a team or group | | | | | | |
| Organizing and managing oneself responsibly and effectively | | | | | | |
| Collecting, analysing, organising and critically evaluating information | | | | | | |
| Communicating effectively, verbally and in writing, including presentation skills | | | | | | |
| Using computer and other business technology effectively | | | | | | |
| Ability to see the world as a set of interrelated systems and identify "ripple effects" | | | | | | |
| Learning effectively in the business environment | | | | | | |
| Being a responsible local, national or global citizen | | | | | | |
| Being a responsible, ethical corporate citizen | | | | | | |
| Being culturally and aesthetically sensitive | | | | | | |
| Taking advantage of educational and careeer opportunities | | | | | | |
| Demonstrating entrepreneurial thinking and action | | | | | | |

Please answer Question 7 by indicating, in sequence (1 = Most Important, 7 = Least Important) which 7 of the following 14 generic competencies are most important to the success your business,

| | Number |
|---|--------|
| Identifying and solving problems using critical and creative thinking skills | |
| Making decisions based on sound, fact-based reasoning | |
| Working effectively with others as a member of a team or group | |
| Organizing and managing oneself responsibly and effectively | |
| Collecting, analysing, organising and critically evaluating information | |
| Communicating effectively, verbally and in writing, including presentation skills | |
| Using computer and other business technology effectively | |
| Ability to see the world as a set of interrelated systems and identify "ripple effects" | |
| Learning effectively in the business environment | |
| Being a responsible local, national or global citizen | |
| Being a responsible, ethical corporate citizen | |
| Being culturally and aesthetically sensitive | |
| Taking advantage of educational and careeer opportunities | |
| Demonstrating entrepreneurial thinking and action | |

Many thanks for your time

The Service-Learning Practitioners' Questionnaire



Dear Service-Learning Practitioner,

Your experience in the field of Service-Learning practices, as well as your knowledge of the South African context makes you one of, at this point in time, a rather limited number of individuals. It is just a small part of this experience and wisdom that I am asking you to share with me in the quest for my PhD.

The proposed title of my PhD is "Service-Learning in MBA degree programmes in South Africa", and I have selected generic competency development in students through participating in a Service – Learning based course. Although little work has been done in this context, your view on the development of generic competencies in Service-Learning courses in general is key to the research. I would greatly value your input, as you are one of the pioneers in the establishment of Service-Learning in South Africa.

Please feel free to contact me on 082 458-9583 if needed.

Many thanks in anticipation of your input.

Yours sincerely,

Terri Carmichael Deputy Director: Special Projects, Wits Business School University of the Witwatersrand Phone: +27 11 717-3657 or 082-458-9583 Fax: +27 11 717-3507

| | | | Questionnaire 1: | Selected | SA experienced | S-L Practition | ers | |
|-------------------|--|-------------------|---|-------------|----------------------------------|----------------|-----------------------------------|-------------------------------|
| Resp | ondent number | | For office use only | | Name: | | | |
| SECT | ION A: Demographics | | | | | | | |
| Q1 | Name of University, Fa | culty and Scho | ol at which you work/ed: | | | | | |
| Q2 | Name of the Service-Le | earning course/ | /s that you run: | | | | | |
| Q3 | Please indicate the leve Under-graduate | el of the Service | e-Learning courses that yo Graduate | u run (tick | all that apply) Post-graduate | e | | |
| Q4 | In the space below, ple | ase describe y | ourself demographically in | 5 words | | | | |
| <u>SECT</u> Q5 | Please indicate which o | of the following | anisations in the South A types of organisation (plac ions in South Africa. If ther | e a cross i | n all the boxes that a | | | |
| | Section 21 Co. | | NPO | | NGO | | Hospital / Hospital department | Entrepreneur |
| | Police station |] | Religious organisation | | Government bod department | y or | Prison | Cause related pressure group |
| | Municipality |] | City council | | Trust / Foundati | on | School | Survival support group |
| | SMME |] | BEE organisation | | Charity | | Volunteer organisation | Development oriented group |
| | HIV / AIDS related organisation |] | Human rights group | | Animal rights gro | pup | Environmental protection agency | |
| | Orphanage |] | Retirement home | | Arts / Culture organi | isation | Community based organisation | |
| | Counselling organisation | | Violence prevention group | | Co-operative | | Educator | |

SECTION C: Generic competencies developed through Service-Learning

In your experience, please indicate the extent to which each of the following generic competencies is developed through Q6. Service-Learning courses

| Q6. | Service-Learning courses | 1 | 2 | 3 | 4 | 5 | |
|-----|---|------------|-----------------|-----------------|-------------|--------------|---------------|
| | | Not at all | A little bit | Notice- able | Quite a lot | Very much | Don't know |
| | Identifying and solving problems using critical and creative thinking skills | | | | | | |
| | Making decisions based on sound, fact-based reasoning | | | | | | |
| | Working effectively with others as a member of a team or group | | | | | | |
| | Organizing and managing oneself responsibly and effectively | | | | | | |
| | Collecting, analysing, organising and critically evaluating information | | | | | | |
| | Communicating effectively, verbally and in writing, including presentation skills | | | | | | |
| | Using computer and other business technology effectively | | | | | | |
| | Ability to see the world as a set of interrelated systems and identify "ripple effects" | | | | | | |
| | Learning effectively in the business environment | | | | | | |
| | Being a responsible local, national or global citizen | | | | | | |
| | Being a responsible, ethical corporate citizen | | | | | | |
| | Being culturally and aesthetically sensitive | | | | | | |
| | Taking advantage of educational and careeer opportunities | | | | | | |
| | Demonstrating entrepreneurial thinking and action | | | | | | |

SECTION D: Assessment of Service-Learning courses

Q7 Please list the assessment methodologies that you apply in your service learning courses

Many thanks for your time

The NPO Questionnaire

Questionnaire for Non-Profit Organisations

Dear Sir / Madam,

Your assistance in contributing to this PhD will be greatly appreciated; it is intended to establish the business needs of NPOs in the hope of being able to better direct university student volunteers' efforts. Your responses will be anonymous and used for this purpose only, and you are under no obligation to answer any question that you are not comfortable with. Only aggregated information will be reported, and no details will be divulged to others.

Contact person: Terri Carmichael, Email: <u>Carmichael.t@wbs.wits.ac.za</u> or <u>terrihrd@iafrica.com</u>, Phone: 082 458-9583)

1. Demographic Information

- 1.1. Please state the main purpose of your organisation
- 1.2. Please state your type of Non Profit Organisation, eg Trust, CBO, Section 21, etc
- 1.3. Please tick the relevant box to indicate the number of employees in your organisation:

| а | <10 | |
|---|--------|--|
| b | 11-50 | |
| с | 51-100 | |
| d | >100 | |

2. Funding of your organisation

Please indicate the major sources of your funds and the approximate percentage for each source

| Source of Income | Approximate % |
|--|---------------|
| Member fees | |
| Income generation (sales and / or services | |
| Fund raising events | |
| Interest on investments | |
| Other – please specify | |
| TOTAL | 100% |

3. Organisational Structures and Processes

| Please tick the relevant box | | Yes | No | Don't Know |
|------------------------------|---|-----|----|---------------|
| 3.1. | Are you aware of the NPO Act? | | | |
| 3.2. | Do you comply with the NPO Act | | | |
| 3.3. | Does your organisation have a business plan? | | | |
| 3.4. | Does your organisation have a constitution? | | | |
| 3.5. | Does your organisation have a strategic plan? | | | |
| 3.6. | Is your organisation's structure aligned with your strategy and allow the strategic plan to be implemented? | | | |
| 3.7. | Does your organisation have a formal organogram / people structure? | | | |
| 3.8. | Does your organisation have written policies and procedures for human resource functions like selection, training and performance management? | | | |
| 3.9. | Are the policies and procedures effective? | | | |
| 3.10. | Does your organisation have sufficient staff for its current operations? | | | |

4. Organisational skills requirements

4.1. What skills are required to run your organisation effectively?

4.2. Which, if any, of the required skills need to be developed further?

5. External Consultants

5.1. If you had free access to a team of multi-skilled business consultants, how would you make use of them in your organisation?

If you have any other comments or suggestions, they would be greatly appreciated



The MBA Service-Learning assignment used in this study

MBA: ORGANISATIONAL DESIGN & DEVELOPMENT

| Course Evaluation | |
|---------------------------------------|-----|
| Syndicate assignment | 25% |
| Individual assignment | 25% |
| Exam equivalent individual assignment | 50% |

The exam equivalent individual assignment has a non-negotiable hand-in date of ______. It may be handed in before then, but any assignments outstanding by 11.00am on the ______ will be marked as "failed absent".

The integrated assignment structure and process

The structure of this course, along with your assignments, is intended to go beyond theories to practical implementation based on solid concepts, and give you the opportunity to do some real good in the real world, whilst developing yourself as an ODD practitioner as well as a more effective manager.

We need to leave our environment better than the way we found it, and this is an opportunity for you to make a small contribution to that end. It is hoped that the exercises will add greater meaning to your own experience as well as give you practical skills, at the same time as performing a valuable service.

<u>Syndicate assignment (25% of the final mark)</u> <u>Submit by:</u>

The syndicate assignment is an action-learning project, and this is your opportunity to help create a better working world. It is intended that the project will add greater meaning to your own experience as well as give you practical skills, whilst providing a valuable service to the broader society.

Each syndicate will adopt the role of an organisation development consultancy for the duration of the course. Rather than working within a large corporate as is the common practice for assignments, you will plan, implement and report back on an OD intervention to be run in a community-based organisation or department of such an organisation. You may select this organisation yourselves, as long as it is one that is non-profit, or for community benefit and not normally be in a position to afford the luxury of a consulting firm. Examples of such organisation would include:

- Any NGO (non-governmental organisation) or NPO (not for profit organisation)
- Hospitals / hospital departments, police stations, schools, religious bodies
- Government bodies, department or institutes, including prisons
- Municipalities, city councils, parks boards
- Educational institutions or departments
- Start-up organisations, especially BEE organisations

- Charities, volunteer organisations
- HIV / AIDS support groups and organisations
- Human rights groups, animal rights groups, environmental protection agencies
- Groups such as Roundtable, Rotary, Life Line, etc
- Orphanages and old age homes, the salvation Army, arts galleries, museums and other culturally related organisations
- Small, or micro-enterprises that are creating entrepreneurial opportunities
- Any other appropriate organisation you can identify.

Your syndicate is required to:

Write a report about your organisation and the situation it is in. Analyse and describe their organisational development needs (The NPO Act requires them to become more self-sufficient and rely less on donations), and how you have assisted them through an appropriately selected (small) OD intervention.

Include no less than 5 references in your report.

The submission should not be longer than 5 pages.

You will also do a Syndicate presentation in the last session, which will contribute 20% of the syndicate marks.

The process should be implemented as follows:

Select and establish contact with an organisation or group that is willing / would like you to do the syndicate exercise with them. Bring their details to class with you in Session 2. You must have obtained their agreement before this class. Hand in an outline of the organisation in terms of their purpose, mission, vision, structure and values – this information may be downloaded from their website or obtained directly from the organisation, or a combination of methods.

Remember that **their** objective is to provide some sort of community service, and you are going to help them to do that better (**but only if they want you to** – if they don't, you will need to find an organisation that does).

When you call them, explain that you are MBA students at WBS, and that your assignment is to undertake an organisation development project in a non-profit organisation, with the intention of providing real value to them. It will not cost them anything, and will enable you to develop better skills by working in an authentic organisational context.

Once the project is written up, they will receive a copy with the intention that they can use it profitably, and we will receive a copy to mark.

Neither the report or its contents will be shared with anyone else, and confidentiality is assured and absolute. You may disguise the identity of the organisation if you or they wish.

Bear in mind that they are likely to say that what they need is more money. Redirect them to answering how they would build their own capacity if they DID have the money.

As you progress through the course, consult with the organisation of your choice regularly to establish:

- How their organisation functions and operates as a business, using McKinsey's 7-S model as a basis
- Who their stakeholders are and what those stakeholders expect from them
- How they decide on their objectives and measure their results
- What their organisational development needs, eg skills gaps, strategy formulation assistance, business process re-engineering, coaching, writing policies or reports, assistance with financial reporting systems, etc are
- Identify an appropriate type of intervention, eg small groups, pairs, cross-functional teams, senior team, etc
- Design a small intervention that will assist them to build their own capacity, and implement it.

Please ask your organisation to email a one-page assessment of your time with them to me on a confidential basis – my contact details are include with my biography.

| Criterion | Percent |
|---|---------|
| Structure, layout, referencing | 10 |
| Identification of OD needs based on analysis of the organisation | 20 |
| Appropriateness and design of the organisational intervention | 15 |
| Honesty and candour in your description of the challenges faced and how they were addressed | 20 |
| Report from the organisation | 15 |
| Quality of the Syndicate presentation | 20 |
| | 100% |

Marks will be allocated as follows:

INDIVIDUAL assignment (25% of the final mark)

Submit by:

Write a short story (up to 3 pages) about the life and circumstances of one of the beneficiaries (ie a community member or family – disguise **names to protect their privacy**) of the organisation you are implementing your ODD intervention in. The story should provide a descriptive circumstantial background surrounding the individual / family, the hardships or difficulties they have faced, using actual events to illustrate, how they came to be assisted by the organisation and how they have benefited from the assistance. Accounts of courage and resilience would add interest.

The purpose of this exercise is for you to gain insight and empathy into the lives of other members of our diverse community, and to view the role of organisational development as a tool that can benefit societies and communities in the entire nation. The organisations themselves may also be able to use the stories to illustrate the good they are doing.

| Criterion | % | | | |
|--|------|--|--|--|
| Depth of understanding of what the organisation is trying to achieve with the service it offers, as reflected in the story | | | | |
| Depth of understanding and empathy of real cultural and diversity issues as reflected in the story | | | | |
| Publishability of the story | 20 | | | |
| TOTAL | 100% | | | |

EXAM EQUIVALENT Individual assignment (50% of the final mark)

Submit to the lecturer by 11.00am on

_____ – NOT NEGOTIABLE

The following generic competencies have been prescribed by South African legislation as essential to management development and are to be included in all National Qualifications. They have also been integrated into qualifications frameworks in the USA, the UK, Scotland, Australia and New Zealand and are the underlying basis of courses taught at Harvard Business School, including the MBA.

Your individual assignment is to submit a document of approximately 15 pages describing your self-development in the following areas during this course:

- Identifying and responsibly solving problems using critical and creative thinking
- Making decisions based on sound, fact-based reasoning
- Working effectively with others as a member of a team, group, organisation, community
- Responsibly and effectively organizing and managing yourself
- Collecting, analysing, organising and critically evaluating information
- Communicating effectively both verbally and in writing

- Using and developing computer or other technology skills
- Understanding the world as a set of inter-related systems
- Discovering new ways to learn more effectively
- Participating as a responsible citizen in the life of other communities
- Being culturally and aesthetically sensitive
- Exploring alternative education and career opportunities
- Developing entrepreneurial thinking

Your submission should include references to not less than 7 published articles, which refer to the development and benefits of the competencies described. These must be formatted as per the WBS adaptation of the Harvard Style Guide. Relate your own learning to what you discover from the literature. Each competency should be described under its own subheading. You will benefit by keeping a reflective diary and making notes **as you go**, to ensure that you recall important learning events and examples to include in your assignment.

Include what YOU learned from the organisation in which you worked.

Assume that everyone in the class, including the lecturer, will be both teacher and learner at all times. Peer learning, peer-driven syndicate management and peer discussion is a critical part of your learning experience. If your syndicate finds itself "carrying" someone who is not pulling his or her weight, find a constructive way of getting their full participation, as you might do at work, using whatever resources are available to you, including faculty members. Selfishness is not OK.

Write up your journal on an ongoing basis with each of the above competencies as subheadings. Seek opportunities to develop skills in each area as you carry out your syndicate assignment, and write them up in your journal.

The most interesting parts (and therefore worth the most marks) will be the ones in which you have had the most difficulty, the times that you have had negative results, the times you have had disagreements in your syndicate but have had to resolve your issues nonetheless, the realisation that you, personally, can do something to make a difference. We want to hear about these times, your feelings about them – as well as the good ones – and what you have personally learnt as a result, how you have become wiser.

If you learnt nothing, describe why not and what you learnt about yourself from learning nothing.

Honesty about failures and how you addressed the failures will get higher marks than glowing reports about how everything went right (which it never does).

Your submission should be presented as a formal report, typed on a word processor and should enable you to represent it as an example of the competency of being "aesthetically sensitive".

It is important that you record your insights in each of the above areas **as you proceed** with your intervention, in the form of notes or a type of diary, then it will be simply a matter

of consolidating, relating your experiences to the literature and tidying up at the end. It is almost impossible to gain or give real insight without doing this.

A useful reflection model to follow is the "what?", "so what?", "now what?" model. This means that you describe an event (what happened), then describe what resulted (consequences), then lastly, what you did / would do next (what you learned).

Allocation of marks

| Criterion | % |
|---|------|
| Layout, structure, style, referencing | 15 |
| Inclusion of comment for all CCFOs – if you had no experiences in a particular area, describe why not | 15 |
| Self-reflective honest accounts of your experiences, feelings, problems experienced, actions taken | 20 |
| Integration of your own experiences and the published literature | 20 |
| Account of YOUR learning from the organization in which you worked | 10 |
| Self-reflective honest accounts of your personal growth in the areas described by the CCFOs and any other areas that you gained insight into. | 20 |
| TOTAL | 100% |

The CHESP student Questionnaire (post-test)

CHESP STUDENT QUESTIONNAIRE (POSTTEST)¹

Dear Student,

You are being asked to complete this questionnaire because you are enrolled in a module / course which has a service-learning component. We are very interested to find out about your experiences of this module / course.

UNIVERSITY OF THE WITWATERSRAND Faculty of ...Commerce, Law & Management School of ... Business Administration (graduate) Department of ...Human Resources TITLE OF ACADEMIC PROGRAMME YOU ARE REGISTERED:MBA.......(Master of Business Administration) TITLE AND CODE OF MODULE: ...Organisational Design & Development (BUSA 5049) STUDENT NUMBER:

I DEMOGRAPHICS

First, we would like to know some information about you. Please circle the correct response.

Gender

| Female | 1 |
|--------|---|
| Male | 2 |

Race

| Asian | 1 |
|----------|---|
| Black | 2 |
| Coloured | 3 |
| White | 4 |

What is your age?(years)

Which year of study are you currently in?

| First-year | 1 |
|----------------------|---|
| Second year | 2 |
| Third year | 3 |
| Fourth year/ Honours | 4 |
| Masters | 5 |

¹ Sources: Gelmon et al (2001) Assessing service-learning and civic engagement. Campus Compact; Reeb, R.N. et al (1998) The Community service self-efficacy scale: Evidence of reliability, construct validity and pragmatic utility. *Michigan Journal of Community Service-learning*.

Name of service agency or service provider you worked with this during the module / course (where appropriate):

.....

II YOUR UNDERSTANDING OF SERVICE-LEARNING

Please provide your understanding of service-learning by completing the sentence below

I understand "service-learning" to be

.....

III YOUR EXPERIENCES OF THE MODULE / COURSE

We would like to hear about your experiences of the module / course you are enrolled in. *Please indicate your level of agreement with each of the statements below.*

| | Strongly agree | Agree | Neutral | Disagree | Strongly disagree | Not applicable |
|---|----------------|-------|---------|----------|----------------------|----------------|
| I learnt from the community in which I worked | 1 | 2 | 3 | 4 | 5 | 6 |
| The community benefited from the work I did | 1 | 2 | 3 | 4 | 5 | 6 |
| The service provider benefited from the work I did | 1 | 2 | 3 | 4 | 5 | 6 |
| This service-learning module / course took more of my time than other modules / courses | 1 | 2 | 3 | 4 | 5 | 6 |
| This service-learning module / course cost me more money than other modules / courses | 1 | 2 | 3 | 4 | 5 | 6 |
| This service-learning module / course required much more work than other modules / courses | 1 | 2 | 3 | 4 | 5 | 6 |

.....

.....

Do you think the module / course was well-planned?

Yes 1 No

Explain your answer

2

What new knowledge, skills, attitudes did you gain through participating in the module / course? Specify what these are.

| •••• | | | ••• | ••• | ••• | ••• | | | ••• | | ••• | | | ••• | | | ••• | | ••• | ••• | ••• | ••• | | | | ••• | ••• | ••• | ••• | ••• | | ••• | •••• | ••• | •••• | ••• | | | •• | ••• |
|---------|-------|-------|-------|-------|-------|-------|-----|-----|-----|-------|-----|-------|-----|-----|-------|-----|-----|-------|-----|-------|-----|-----|-----|----|-------|-------|-----|-------|-----|-----|-------|-----|-------|-----|-------|-----|-----|-----|-----|-----|
| •••• | ••• | ••• | • • • | ••• | • • • | ••• | | ••• | •• | • • • | ••• | • • • | ••• | ••• | ••• | ••• | ••• | ••• | ••• | • • • | ••• | ••• | | •• | • • • | • • • | •• | • • • | ••• | •• | | •• | • • • | ••• | • • • | ••• | ••• | ••• | •• | ••• |
| • • • • | • • • | ••• | • • • | • • • | • • • | • • • | ••• | ••• | •• | ••• | ••• | ••• | ••• | ••• | • • • | •• | ••• | • • • | ••• | • • • | ••• | ••• | ••• | •• | • • • | ••• | •• | • • • | ••• | •• | • • • | •• | • • • | ••• | • • • | ••• | ••• | ••• | •• | ••• |
| • • • • | | • • • | | • • • | | • • • | | | ••• | | ••• | | •• | | | • • | | | • • | | ••• | | | | | | • • | | ••• | •• | | ••• | | ••• | | ••• | | | ••• | |

Do you think the service provider (community organisation) involved in this module / course benefited from the module / course as was intended at the beginning of the module / course?

| Yes | 1 |
|---------------------|---|
| No | 2 |
| Don't know | 3 |
| No service provider | 4 |

If yes, describe how they benefited. If no, why not?

.....

Do you think the community members involved in this module / course benefited from the module / course as was intended?

| Yes | 1 |
|--------------|---|
| No | 2 |
| Don't know | 3 |
| No community | 4 |

If yes, describe how they benefited. If no, why not?

.....

Have you been given clear rules and guidelines for working in the community?

| Yes | 1 | No | 2 |
|-----|---|----|---|
|-----|---|----|---|

If yes, specify what these rules are (at least three most important)

 What kind of preparation did you receive for working with the community?

 Specify

 Do you think the assessment of this service-learning module / course was different to that of other module / courses?

 If yes, specify how it was (or should be) different to other courses

Finally, please add any other comments (feelings, concerns, opinions; difficulties) you have about the module / course you have just completed.

Thank you for your insights regarding service-learning!

The Honey and Mumford 40-item Learning Styles Questionnaire

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The Kruskal-Wallis ANOVA Report

Analysis of Variance Report

Page/Date/Time 1 2007-01-08 11:42:55 Database Response Solve_Problems,Systems_thinking,Teams,communication,info_mgmt,self_mgmt,technology

Tests of Assumptions Section

| | Test | Prob | Decision |
|-------------------------------------|----------|----------|----------|
| Assumption | Value | Level | (0.05) |
| Skewness Normality of Residuals | 13.6933 | 0.000000 | Reject |
| Kurtosis Normality of Residuals | 11.3275 | 0.000000 | Reject |
| Omnibus Normality of Residuals | 315.8207 | 0.000000 | Reject |
| Modified-Levene Equal-Variance Test | 3.8450 | 0.000848 | Reject |

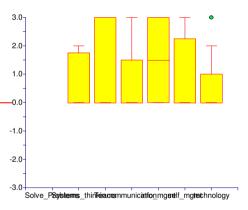
Expected Mean Squares Section Source Term Denominator Expected Term DF Fixed? Term Mean Square A (...) 6 Yes S(A) S+sA 987 S(A) S(A) No

Note: Expected Mean Squares are for the balanced cell-frequency case.

Analysis of Variance Table

| Source | | Sum of | Mean | | Prob | Power |
|------------------|-----|----------|----------|---------|-----------|--------------|
| Term | DF | Squares | Square | F-Ratio | Level | (Alpha=0.05) |
| Α() | 6 | 10219.46 | 1703.244 | 33.71 | 0.000000* | 1.000000 |
| S(A) | 987 | 49865.39 | 50.52218 | | | |
| Total (Adjusted) | 993 | 60084.86 | | | | |
| Total | 994 | | | | | |

Box Plot Section



* Term significant at alpha = 0.05

Analysis of Variance Report

Page/Date/Time 2 2007-01-08 11:42:58 Database Response Solve_Problems,Systems_thinking,Teams,communication,info_mgmt,self_mgmt,technology

Kruskal-Wallis One-Way ANOVA on Ranks Hypotheses Ho: All medians are equal. Ha: At least two medians are different. **Test Results**

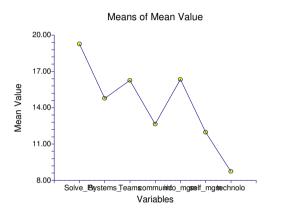
| Method Not Corrected for Ties Corrected for Ties | | DF 6 6 | Chi-Square (H) 203.2601 212.2278 | Prob Level 0.000000 0.000000 | Decision(0.05) Reject Ho Reject Ho |
|--|-------|---------------------|--|---------------------------------------|---|
| | | - | 212.2270 | 0.000000 | |
| Number Sets of Ties Multiplicity Factor | | 28 4.149914E+07 | | | |
| Group Detail | | | | | |
| | | Sum of | Mean | | |
| Group | Count | Ranks | Rank | Z-Value | Median |
| Solve_Problems | 142 | 97232.00 | 684.73 | 8.3943 | 20 |
| Systems_thinking | 142 | 71443.00 | 503.12 | 0.2520 | 14.5 |
| Teams | 142 | 82857.50 | 583.50 | 3.8558 | 15 |
| communication | 142 | 61884.00 | 435.80 | -2.7661 | 10 |
| info mgmt | 142 | 84756.00 | 596.87 | 4.4553 | 15 |
| self mgmt | 142 | 59038.50 | 415.76 | -3.6645 | 10 |
| technology | 142 | 37304.00 | 262.70 | -10.5267 | 10 |
| Means and Effects Se | ction | | | | |
| | | | | Standard | |

| | | | Standard | |
|------------------|-------|----------|-----------|-----------|
| Term | Count | Mean | Error | Effect |
| All | 994 | 14.28571 | | 14.28571 |
| Solve_Problems | 142 | 19.2676 | 0.5964814 | 4.981891 |
| Systems_thinking | 142 | 14.77465 | 0.5964814 | 0.4889336 |
| Teams | 142 | 16.26056 | 0.5964814 | 1.974849 |
| communication | 142 | 12.64789 | 0.5964814 | -1.637827 |
| info_mgmt | 142 | 16.33803 | 0.5964814 | 2.052314 |
| self_mgmt | 142 | 11.97183 | 0.5964814 | -2.313883 |
| technology | 142 | 8.739436 | 0.5964814 | -5.546278 |
| | | | | |

Analysis of Variance Report

Page/Date/Time 3 2007-01-08 11:42:58 Database Response Solve_Problems,Systems_thinking,Teams,communication,info_mgmt,self_mgmt,technology

Plots of Means Section



Bonferroni (All-Pairwise) Multiple Comparison Test

Response: Solve_Problems,Systems_thinking,Teams,communication,info_mgmt,self_mgmt,technology Term A:

Alpha=0.050 Error Term=S(A) DF=987 MSE=50.52218 Critical Value=3.0381

| | | | Different From |
|------------------|-------|----------|--|
| Group | Count | Mean | Groups |
| technology | 142 | 8.739436 | self_mgmt, communication, Systems_thinking, Teams, info_mgmt, Solve_Problems |
| self_mgmt | 142 | 11.97183 | technology, Systems_thinking, Teams, info_mgmt, Solve_Problems |
| communication | 142 | 12.64789 | technology, Teams, info_mgmt, Solve_Problems |
| Systems_thinking | 142 | 14.77465 | technology, self_mgmt, Solve_Problems |
| Teams | 142 | 16.26056 | technology, self_mgmt, communication, Solve_Problems |
| info_mgmt | 142 | 16.33803 | technology, self_mgmt, communication, Solve_Problems |
| Solve_Problems | 142 | 19.2676 | technology, self_mgmt, communication, Systems_thinking, Teams, info_mgmt |

Notes:

This section presents the results of all paired comparisons among the means. Since this procedure uses the Bonferroni inequality, it is not as accurate as the Tukey-Kramer's method.

Analysis of Variance Report

Page/Date/Time 4 2007-01-08 11:43:01 Database Response Solve_Problems,Systems_thinking,Teams,communication,info_mgmt,self_mgmt,technology

Scheffe's Multiple-Comparison Test

Response: Solve_Problems,Systems_thinking,Teams,communication,info_mgmt,self_mgmt,technology Term A:

Alpha=0.050 Error Term=S(A) DF=987 MSE=50.52218 Critical Value=3.5562

| | | | Different From |
|------------------|-------|----------|--|
| Group | Count | Mean | Groups |
| technology | 142 | 8.739436 | self_mgmt, communication, Systems_thinking, Teams, info_mgmt, Solve_Problems |
| self_mgmt | 142 | 11.97183 | technology, Teams, info_mgmt, Solve_Problems |
| communication | 142 | 12.64789 | technology, Teams, info_mgmt, Solve_Problems |
| Systems_thinking | 142 | 14.77465 | technology, Solve_Problems |
| Teams | 142 | 16.26056 | technology, self_mgmt, communication, Solve_Problems |
| info_mgmt | 142 | 16.33803 | technology, self_mgmt, communication |
| Solve_Problems | 142 | 19.2676 | technology, self_mgmt, communication, Systems_thinking, Teams |

Notes:

This report provides multiple comparison tests for all possible contrasts among the the means. These contrasts may involve more groups than just each pair, so the method is much stricter than need be. The Tukey-Kramer method provides more accurate results when only pairwise comparisons are needed.

Tukey-Kramer Multiple-Comparison Test

Response: Solve_Problems,Systems_thinking,Teams,communication,info_mgmt,self_mgmt,technology Term A:

Alpha=0.050 Error Term=S(A) DF=987 MSE=50.52218 Critical Value=4.1782

| | | | Different From |
|------------------|-------|----------|--|
| Group | Count | Mean | Groups |
| technology | 142 | 8.739436 | self_mgmt, communication, Systems_thinking, Teams, info_mgmt, Solve_Problems |
| self_mgmt | 142 | 11.97183 | technology, Systems_thinking, Teams, info_mgmt, Solve_Problems |
| communication | 142 | 12.64789 | technology, Teams, info_mgmt, Solve_Problems |
| Systems_thinking | 142 | 14.77465 | technology, self_mgmt, Solve_Problems |
| Teams | 142 | 16.26056 | technology, self_mgmt, communication, Solve_Problems |
| info_mgmt | 142 | 16.33803 | technology, self_mgmt, communication, Solve_Problems |
| Solve_Problems | 142 | 19.2676 | technology, self_mgmt, communication, Systems_thinking, Teams, info_mgmt |

Notes:

This report provides multiple comparison tests for all pairwise differences between the means.

Analysis of Variance Report 2 2007-01-08 11:43:36

Page/Date/Time 5 2007-01-08 11:43:36 Database Solve_Problems,Systems

Solve_Problems, Systems_thinking, Teams, communication, info_mgmt, self_mgmt, technology

Kruskal-Wallis Multiple-Comparison Z-Value Test

| Feams communication info_mgmt | | 2.8118 | 010 | 307 | 000 | 316 | 0.0220 | | |
|-------------------------------|----------------|------------------|--------|---------------|-----------|-----------|------------|-------------------------------------|---|
| Теа | ю Ю | 0 0 | 0.4 | 4. 8. | 0.0 | 5.4 | 10.0 | | |
| king | 7.4656 | 2.0189 | 4.4297 | 0.0000 | 4.8307 | 0.6010 | 5.1914 | | |
| Systems_thinking | 3.0359 | 2.4108 | 0.0000 | 4.4297 | 0.4010 | 5.0307 | 9.6211 | lifferent if z-value > 1.9600 | significantly different if z-value > 3.0381 |
| ems | 5.4467 | 0.0000 | 2.4108 | 2.0189 | 2.8118 | 2.6199 | 7.2103 | 0 | antly different if |
| Solve_Problems | 0.0000 | 5.4467 | 3.0359 | 7.4656 | 2.6350 | 8.0666 | 12.6570 | ians significan | edians signific |
| Variable | Solve_Problems | Systems_thinking | Teams | communication | info_mgmt | self_mgmt | technology | Regular Test: Medians significantly | Bonferroni Test: M |

Kruskal-Wallis Multiple-Comparison Z-Value Test

| Variable | self_mgmt | technology |
|---------------------|-------------------|---|
| | 0.0000 | |
| Systems_thinking | 2.6199 | /.2103 |
| Teams | 5.0307 | 9.6211 |
| communication | 0.6010 | 5.1914 |
| info_mgmt | 5.4316 | 10.0220 |
| self_mgmt | 0.0000 | 4.5904 |
| technology | 4.5904 | 0.0000 |
| Regular Test: Medi | ans significantly | Regular Test: Medians significantly different if z-value > 1.9600 |
| Bonferroni Test: Me | edians significar | 300 300 300 300 300 300 300 300 300 300 |

The Critical Cross-Field Outcomes

All of the Critical Cross-Field Outcomes must be embedded in nationally registered qualifications; they must emerge through the learning process rather than be taught overtly.

The following seven Critical Cross-Field Outcomes are assessable in learners:

- Identifying and solving problems in which responses display that responsible decisions using critical and creative thinking have been made
- Working effectively with others as a member of a team, group, organisation, community
- Organizing and managing oneself and one's activities responsibly and effectively
- Collecting, analysing, organising and critically evaluating information
- Communicating effectively using visual, mathematical and/or language skills in the modes of oral and/or written persuasion
- Using science and technology effectively and critically, showing responsibility towards the environment and health of others
- Demonstrating an understanding of the world as a set of related systems by recognising that problem-solving contexts do not exist in isolation

The following five Critical Cross-Field Outcomes are educational aims:

- Contributing to the full personal development of each learner and the social and economic development of the society at large, by making it the underlying intention of any programme of learning to make an individual aware of the importance of:
 - Reflecting on and exploring a variety of strategies to learn more effectively;
 - Participating as responsible citizens in the life of local, national and global communities;
 - Being culturally and aesthetically sensitive across a range of social contexts;
 - Exploring education and career opportunities;
 - Developing entrepreneurial opportunities

(Isaacs 2000; RSA 2000a)

The Chi-Square test showing the correlation between the depth of reflection and Bloom level achieved

| Chi square test showing association between depth of reflection and Bloom level achieved | | | | | | | | | |
|--|-------------|---------|---------|---------|---------|--------------------------|-------------------|-----|--|
| Observed | Bloom 0 | Bloom 1 | Bloom 2 | Bloom 3 | Bloom 4 | Bloom 5 | Bloom 6 | | |
| N | 9 | 7 | 1 | 0 | 0 | 0 | 0 | 17 | |
| W | 4 | 14 | 24 | 32 | 3 | 0 | 0 | 77 | |
| SW | 0 | 1 | 7 | 84 | 63 | 19 | 7 | 181 | |
| NW | 0 | 0 | 2 | 5 | 18 | 25 | 88 | 138 | |
| | 13 | 22 | 34 | 121 | 84 | 44 | 95 | 413 | |
| | - | | - | | - | | | - | |
| Predicted | Bloom 0 | Bloom 1 | Bloom 2 | Bloom 3 | Bloom 4 | Bloom 5 | Bloom 6 | | |
| Ν | 0.5 | 0.9 | 1.4 | 5.0 | 3.5 | 1.8 | 3.9 | 17 | |
| W | 2.4 | 4.1 | 6.3 | 22.6 | 15.7 | 8.2 | 17.7 | 77 | |
| SW | 5.7 | 9.6 | 14.9 | 53.0 | 36.8 | 19.3 | 41.6 | 181 | |
| NW | 4.3 | 7.4 | 11.4 | 40.4 | 28.1 | 14.7 | 31.7 | 138 | |
| | 13 | 22 | 34 | 121 | 84 | 44 | 95 | 413 | |
| | | | | | | | | | |
| | | | | | | | | | |
| Observed | Bloom 0 & 1 | Bloom 2 | Bloom 3 | Bloom 4 | Bloom 5 | Bloom 6 | | | |
| N & W | 34 | 25 | 32 | 3 | 0 | 0 | 94 | | |
| SW | 1 | 7 | 84 | 63 | 19 | 7 | 181 | | |
| NW | 0 | 2 | 5 | 18 | 25 | 88 | 138 | | |
| 1444 | 35 | 34 | 121 | 84 | 44 | 95 | 413 | | |
| | 00 | 04 | | ••• | | | 410 | | |
| Predicted | Bloom 0 & 1 | Bloom 2 | Bloom 3 | Bloom 4 | Bloom 5 | Bloom 6 | | | |
| N & W | 8.0 | 7.7 | 27.5 | 19.1 | 10.0 | 21.6 | 94 | | |
| SW | 15.3 | 14.9 | 53.0 | 36.8 | 19.3 | 41.6 | 181 | | |
| NW | 11.7 | 11.4 | 40.4 | 28.1 | 14.7 | 31.7 | 138 | | |
| | 35 | 34 | 121 | 84 | 44 | 95 | 413 | | |
| | | | | | | | | | |
| Chi-sq Contribution | Bloom 0 & 1 | Bloom 2 | Bloom 3 | Bloom 4 | Bloom 5 | Bloom 6 | | | |
| N & W | 85.1 | 38.5 | 0.7 | 13.6 | 10.0 | 21.6 | | | |
| SW | 13.4 | 4.2 | 18.1 | 18.6 | 0.0 | 28.8 | | | |
| | | | | | | | | | |
| NW | 11.7 | 7.7 | 31.0 | 3.6 | 7.2 | 99.7 | | | |
| NW | 11.7 | 7.7 | 31.0 | 3.6 | 7.2 | 99.7 χ ² = | 413.6 | | |
| NW | 11.7 | 7.7 | 31.0 | 3.6 | 7.2 | | 413.6 1.18E-82 | | |
| NW | 11.7 | 7.7 | 31.0 | 3.6 | 7.2 | χ ² = | | | |

Some of the predicted values (marked in yellow) were too small for analysis on their own, so categories Bloom levels 0 and 1 and Reflection levels "none" and "what" were combined for analysis