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ARID AGRICULTURE UNIVERSITY
RAWALPINDI



DEPARTMENT OF AGRONOMY

**Self Assessment Report
M.Sc. (Hons.) Agronomy
2010**

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INTRODUCTION

Agronomy Department was established in 1984 in the Barani Agriculture College, Rawalpindi. The department started M.Sc. (Hons.) degree program in 1997. The department offers research oriented M.Sc.(Hons.), degree Agriculture, in Agronomy. Students who fulfill the criteria are admitted in M. Sc.(Hons.) Agronomy degrees programs. Agronomy degree programs are designed to be flexible in order to meet the student's requirements in different areas of Agronomy viz. Nutrient Management / Nutrient Use Efficiency, Crop Production Technology of Field Crops, Seed Production and Technology, Physical Properties of Soil, Breeding Field Crops, Principles of Plant Nutrition and Growth Regulators, Soil Fertility and Fertilizers, Methods of Soil And Plant Analysis, Organic Farming, Conservation Agronomy, Crop Growth Modeling, Allelopathy and Weed Management.

The students of Masters are encouraged to take part in national as well as international seminars, workshops and other training activities for more exposure to the recent trends in agronomy. The faculty always lead the students in research publications. The use of various new instruments and equipments is an essential part of any research.

The Department has highly qualified and experienced faculty mostly having post doctorate research experience from universities of International fame. The faculty has produced 45 publications during the reporting period in journals of national and international repute. The faculty members have specialization in the fields of Crop Modeling, Crop Physiology, Crop & Seed Production Technology, Plant Nutrition, Forage and Fodder Production, Organic Farming, Conservation Agronomy, Allelopathy/ Weed Management etc.

Components of Self Assessment Process:

This Self Assessment has been arranged on the foundation of the following eight criteria described in self Assessment Manual.

CRITERION 1

PROGRAM MISSION, OBJECTIVES AND OUTCOMES

The Department of Agronomy presents the M.Sc.(Hons.) students the association, ability and indulgent critical for professional achievement in a changing world. Agronomy is a diverse profession that encompasses all aspects of crop production and soil management. The goal of the Department is to increase yield production, quality and profit by utilizing crop possessions and crop physiology.

Mission Statements of the Department of Agronomy:

The Mission of the department is to equip and impart training to M.Sc.(Hons.)students for high-quality education and research resulting in increased scientific knowledge and skills for employment and productive citizenship. Presently the department is striving for multi-dimensional approach to impart standard education and research skills.

STANDARDS

Standards 1.1:

Documented measurable objectives

Objectives:

The main objectives of the Agronomy department are to:

- Build up the Department on modern lines for education and research at M.Sc. (Hons.) level.
- Employ the superior analytical approaches to impart the realistic scientific skills in the field of Agronomy.
- Broaden the visualization of students by teaching them integrated agriculture.
- adherence to new teaching methods & planning for current and upcoming researchable problems

Outcomes:

- Department of Agronomy was Strengthened by planning the point in time needed education and research for M.Sc. (Hons.) students.
- M.Sc. (Hons.) students were imparted practical knowledge using advanced diagnostic techniques.
- Amalgamation of knowledge was achieved through induction of multidimensional courses for master's degree students in addition to contemplation on latest developments in applied research projects/thesis research.
- Eagerness of new teaching/researchable areas achieved by updating the curricula.

Main elements of strategic plan to achieve mission and objectives

- To award M.Sc. (Hons.) degrees to these students a crash training system collecting information's through consultation from world reviews, writing, symposia and workshops.
- To update the curricula of major & major courses, regular planning was launched.
- By equipping with up to date facilities & equipment's the departmental labs.
- Publication of research data in scientific journals of world repute, books and other literature.

Programme Objectives Assessment

Table 1: Objective Assessment

sr. #	Objectives	How measured	When measured	Improvement identified	Improvement made
1	Improvement and escalation of Agronomy Department for Master's education	After assessing the accessibility of latest research services and practical appliance of new technology in agronomic aspects of agriculture	As a requisite requirement It is an incessant practice.	Training and research style is required to be superior.	The induction of more striking and comprehensible Teaching and research methods has been done.
2.	To teach practical / useful information to the M.Sc. (Hons.) students	Through the semestoral examinations, seminars and research presentation. Examinations.	During their mid and final exams, seminars & research presentation.	A few innovative courses and research facilities are needed to be included in the Master's curricula	Under HEC requirement policy the curricula has been revised for Master's.
3	Assimilation of multi-dimensions of agronomy.	By examining the students in incorporation of the effects in semestoral and comprehensive exams.	During semester exams and in comprehensive exams after completion of research.	The induction of multidimensional courses is needed to be integrated in the M.Sc. (Hons.) course work	Introduction of new subjects covering the entire boundary of agronomy has been done.
4	Anticipation of new teaching/researchable areas	Unfeeling the need of recent progress in the pertinent areas of Agronomy	It is a constant doings.	Point in time requirement based novel courses and research problems are needed to be included in curriculum and research priority areas.	Approval of new curricula and research areas has been accorded by the Faculty Academic Council

STANDARD 1.2: Objectives vs. Outcomes

TABLE 2: Objectives vs. Outcomes

		Objectives			
Outcomes	Sr.#	1	2	3	4
Outcomes	1	**	***	**	**
	2	*	***	**	***
	3	**	***	**	**
	4	**	**	**	**

* Relevant

** Relevant and satisfactory

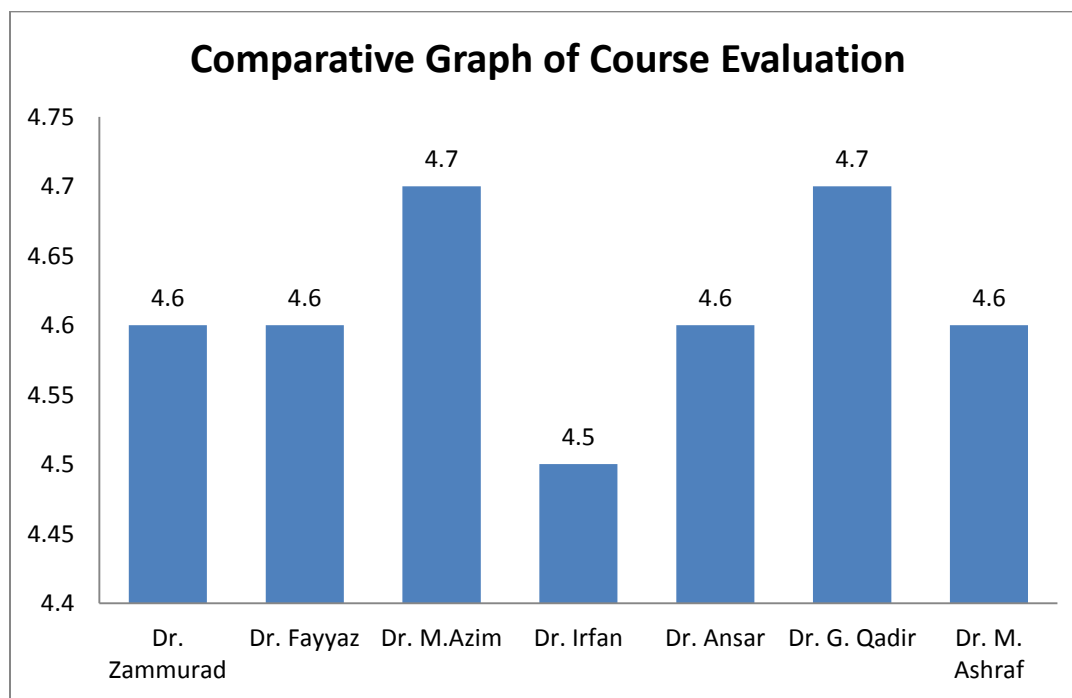
*** Highly relevant and satisfactory

Preformat 1 & 10

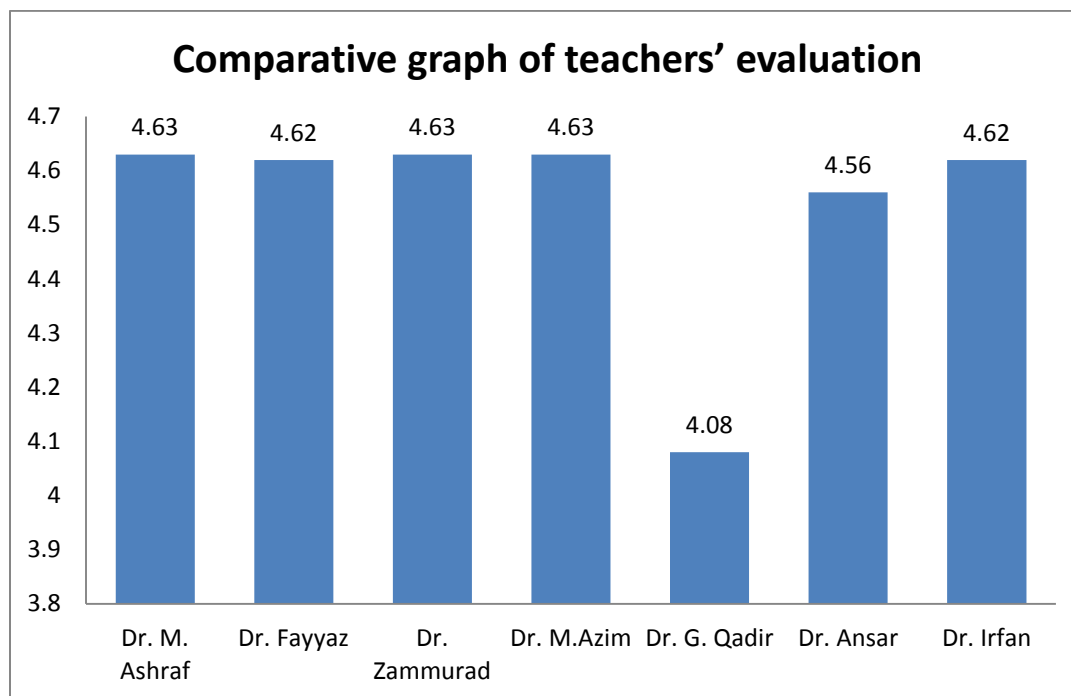
Course and Teacher Evaluation

Comparative graph of courses evaluation:

The values were taken from the proformas filled by the students, and then the impact was calculated according to the formula given by QEC.



Comparative graph of teachers' evaluation:



1. Dr. Zammurad Iqbal Ahmed

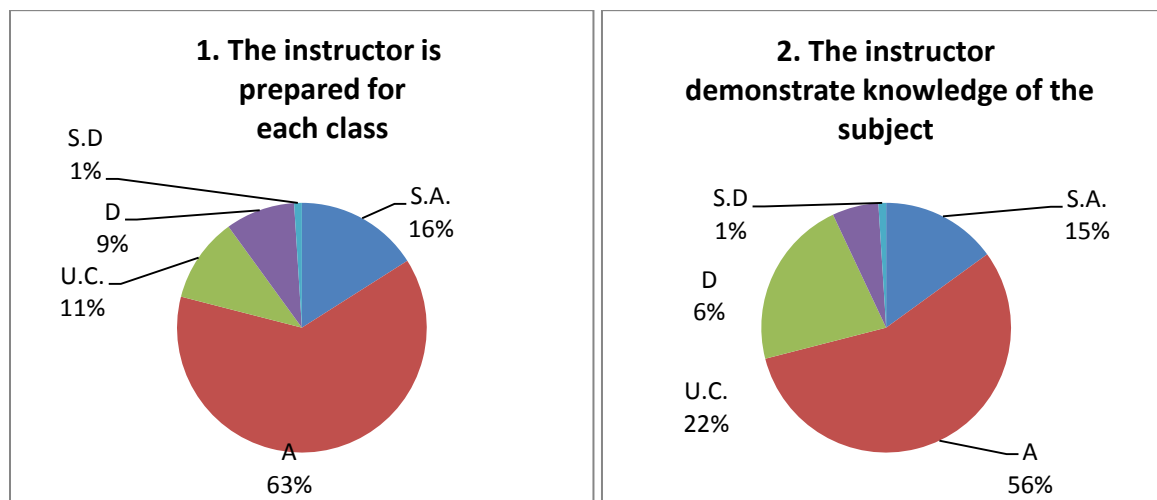
i. Teacher Evaluation

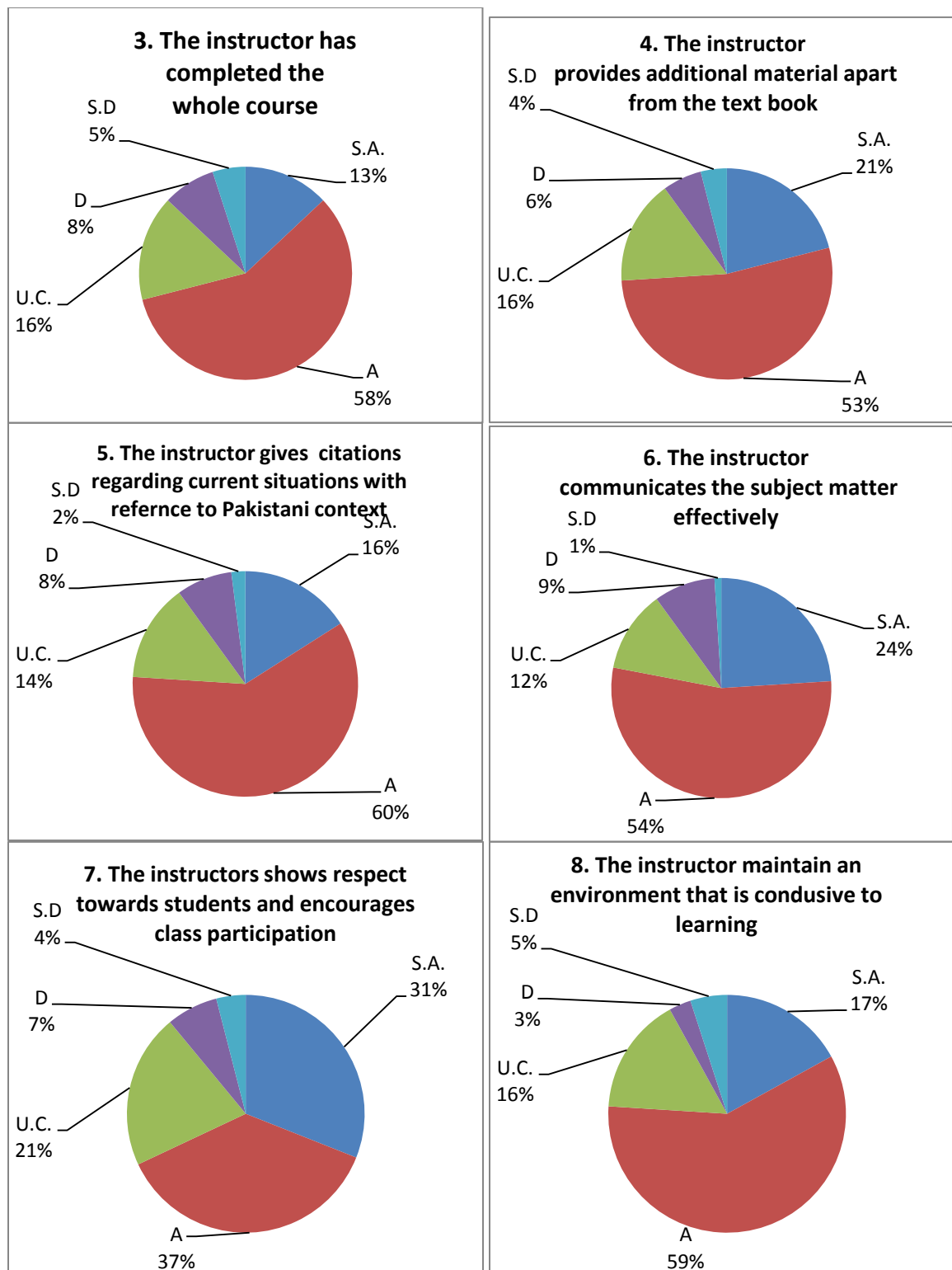
Data were collected from 18 M. Sc. students. Among the teachers, Dr. Zammurad achieved an excellent impact value of 4.63, that was parallel to Prof. Dr. Muhammad Ashraf(4.63) and Dr. Muhammad Azeem(4.63), followed by Prof. Dr. F.H. Sahi and Dr. Irfan with very good impact (4.62), and good impact value of Dr. Ansar (4.56), followed by Dr. G. Qadir(4.08). The individual parameters showed that the 16% of the students strongly agreed, 63% agreed, 11% uncertain, 9% disagreed, and 1% strongly disagreed that the instructor was prepared for each class. The data of rest of the parameters inferred that major proportion of the students are agreed that the teacher is fair in examination, the instructor came with good preparation the instructor demonstrates knowledge of the subject, instructor had completed the whole course, the instructor provided additional material apart from the textbook, the instructor gave citations regarding current situations with reference to Pakistani context, the instructor communicates the subject matter, the instructor shows respect towards students and encourages class participation effectively, the instructor maintained an environment that was conducive to

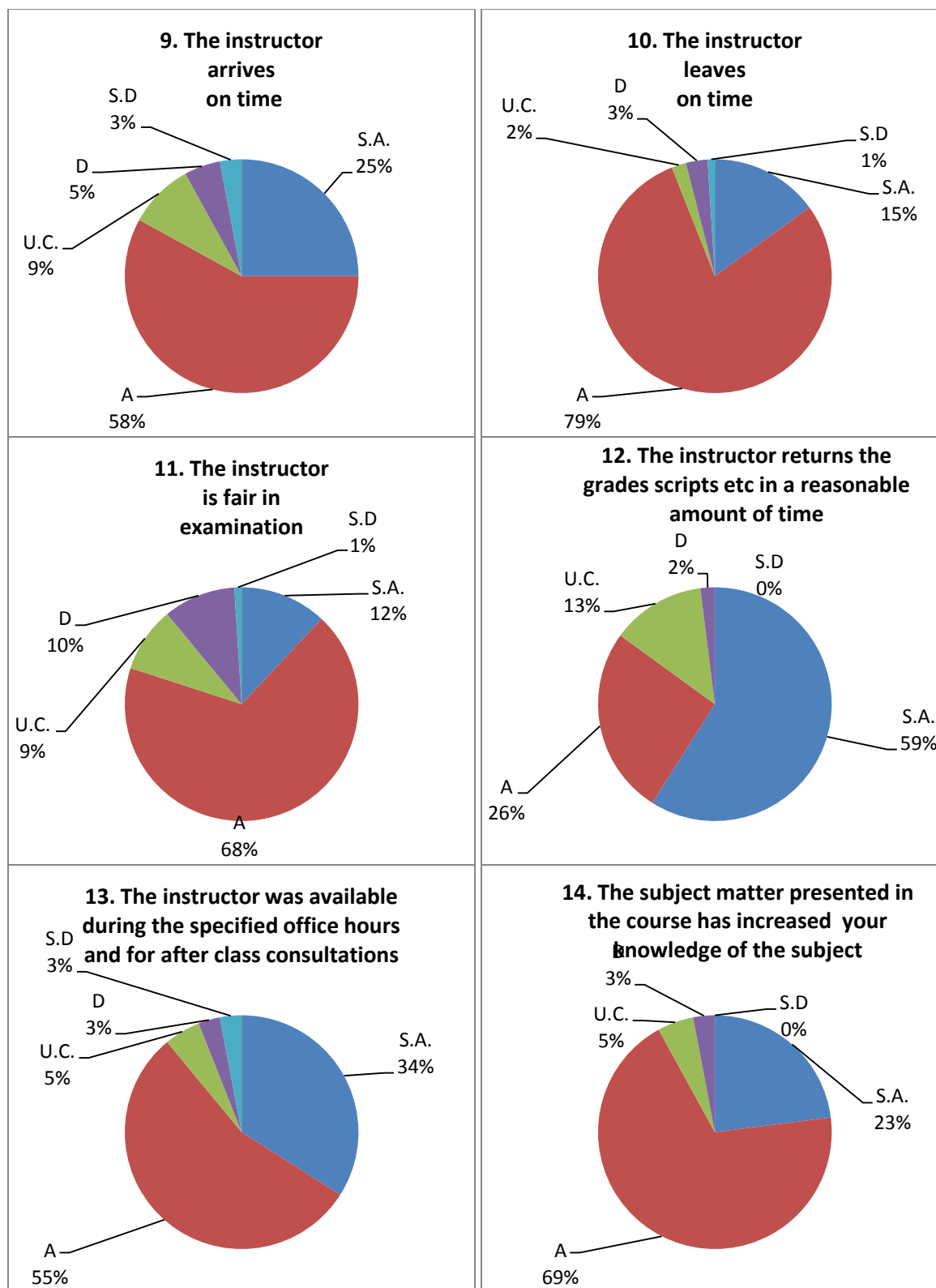
learning, the instructor arrived on time, the instructor returned the graded scripts etc. in a reasonable amount of time, the instructor was available during the specified office hours after class for consultations, the Subject matter presented in the course had increased their knowledge of the subject, the syllabus clearly states course objectives requirements, procedures and grading criteria, the course integrates theoretical course concepts with real-world applications, and the assignments and exams covered the materials presented in the course, the course material is modern and updated.

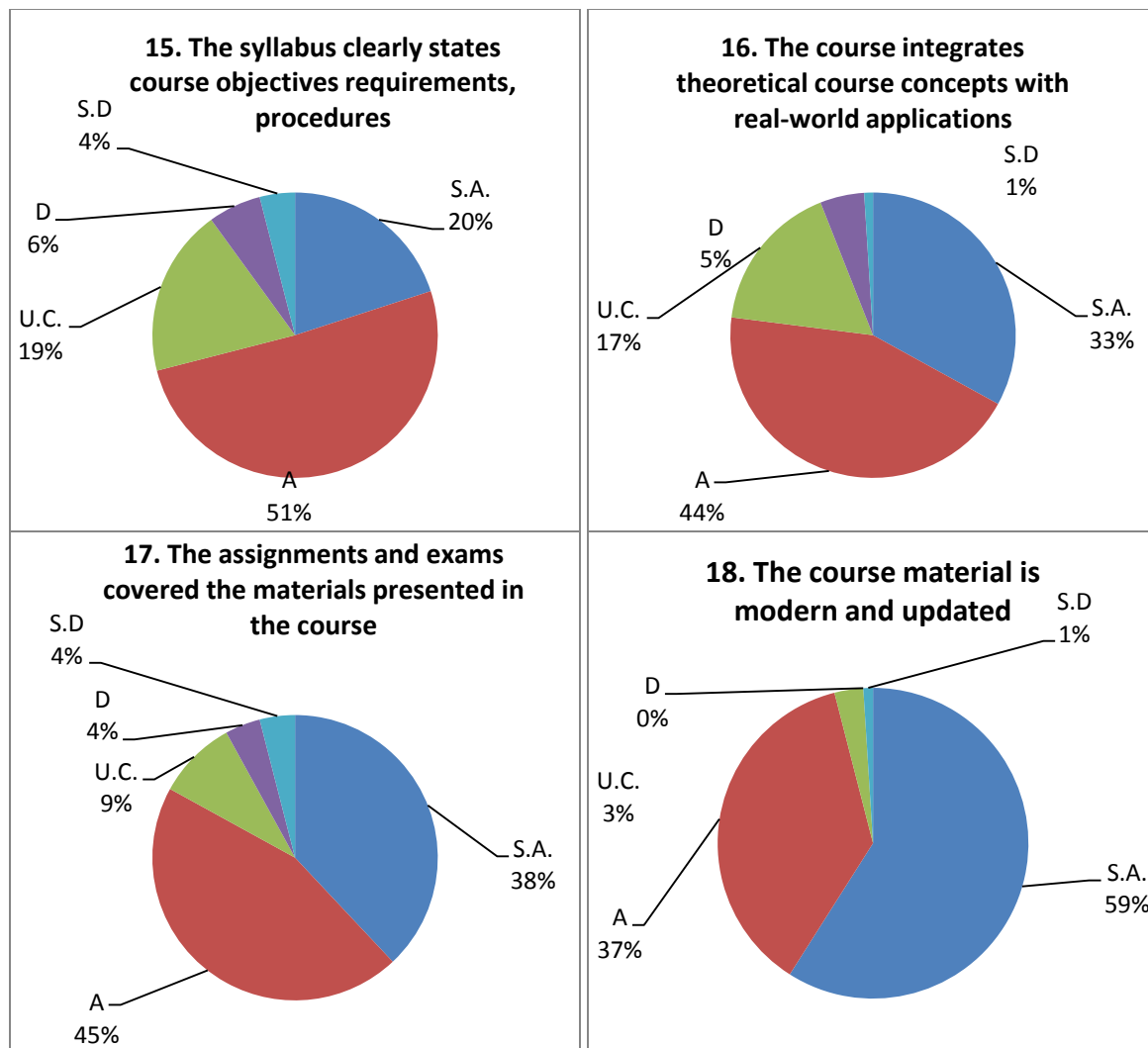
Comments / Suggestions

- He conveyed the lectures in a conceptual way.
- More practicals must be arranged in labs.
- Presented the idea clearly.
- Good behavior of the teacher and was available any time.
- Completed course in time.
- He had full command of the subject.









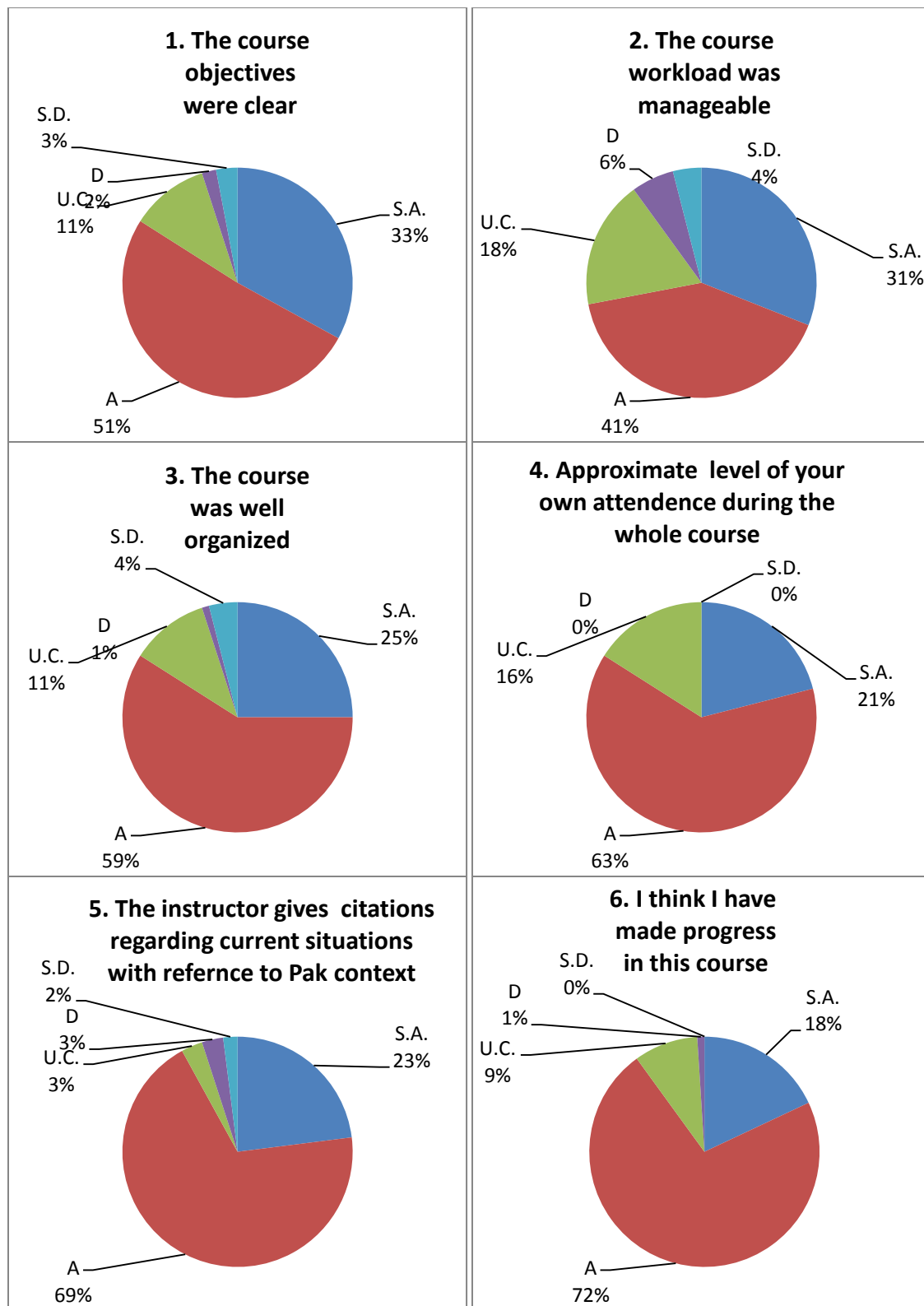
ii. Course Evaluation

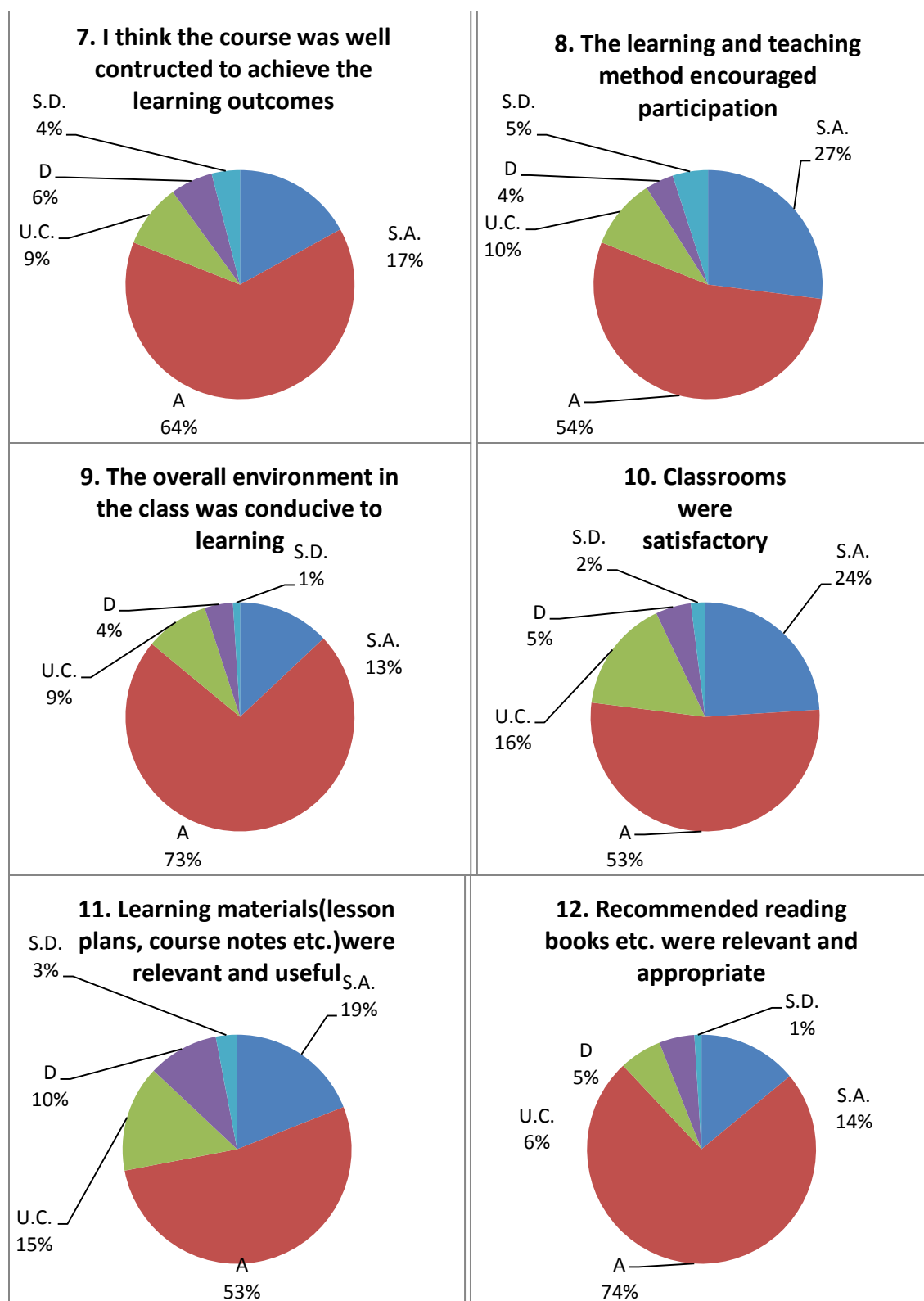
AGR-701	Advanced field crop production	4(3-2)	Dr. Zammurad Iqbal Ahmed
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Data were collected from 18 M. Sc. students. Comparative graph of course evaluation flaunted, that the course (AGR-701) taught by Dr. Zammurad Iqbal Ahmed had an impact value of 4.6. The individual parameter showed that 33% the students strongly agreed, 51% agreed, 11% uncertain, 2% disagreed and 3% strongly disagreed that the course objectives were clear. Data regarding other parameters showed that most of the students agreed about the effectiveness and objectivity of the course, the course workload was manageable, well organized, the course was well structured to achieve the learning outcomes, the learning and teaching methods encouraged participation, the overall environment in the class was conducive to learning, and classrooms were satisfactory, learning materials were relevant, recommended reading books etc. were relevant and appropriate, provision of learning resources in the library was adequate and the course stimulated their interest and thought on the subject area, the pace of the Course was appropriate, ideas and concepts were presented clearly, the method of assessment were reasonable, the material was well organized and presented, the instructor was responsive to student needs and problems, instructor was regular throughout the course and the material in the tutorials was useful.

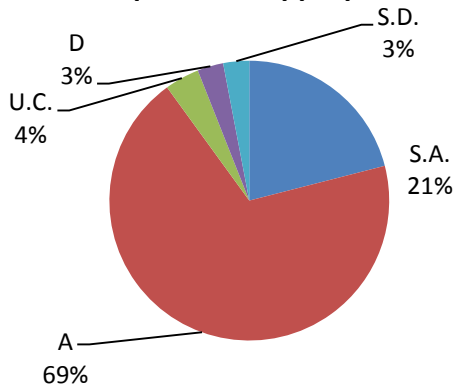
Comments / Suggestions

- The course was thought provoking and informative.
- Course can be improved by adding more practicals and new techniques.
- Lab equipment/facilities are needed to be improved.
- Class room condition should be improved.
- Course was interesting and conceptual.

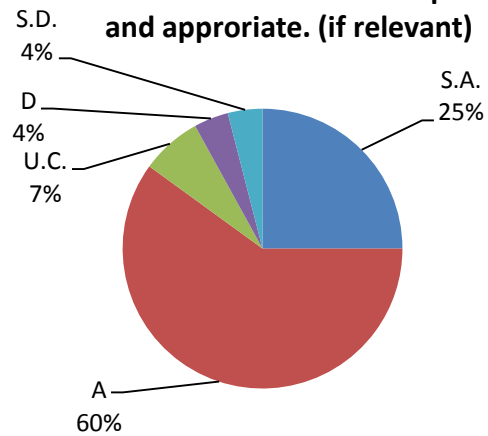




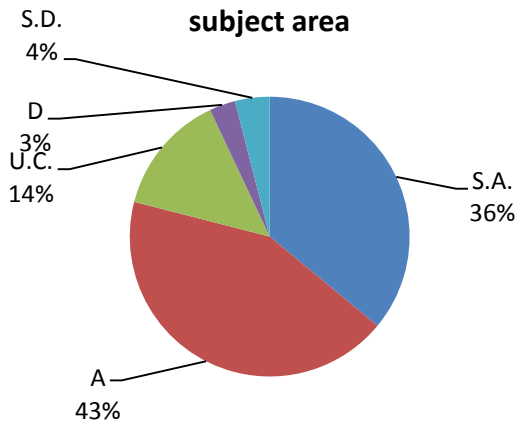
13. The provision of learning resources in the library was adequate and appropriate



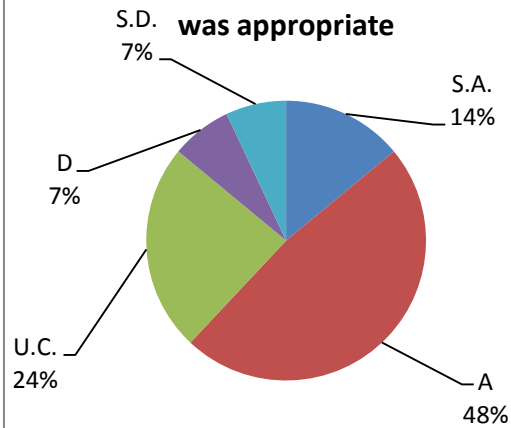
14. The provision of learning resources on the web adequate and appropriate. (if relevant)



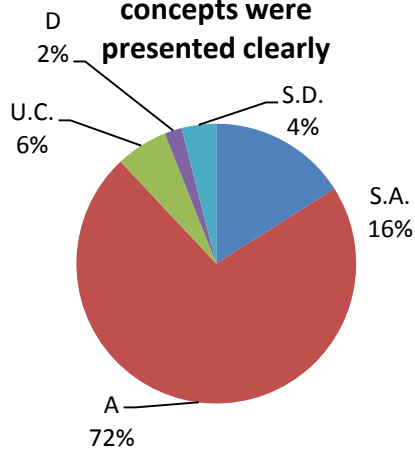
15. The course stimulated by interest and thought on the subject area



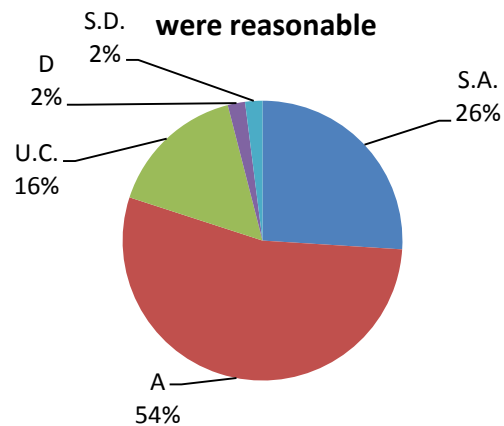
16. The pace of the course was appropriate

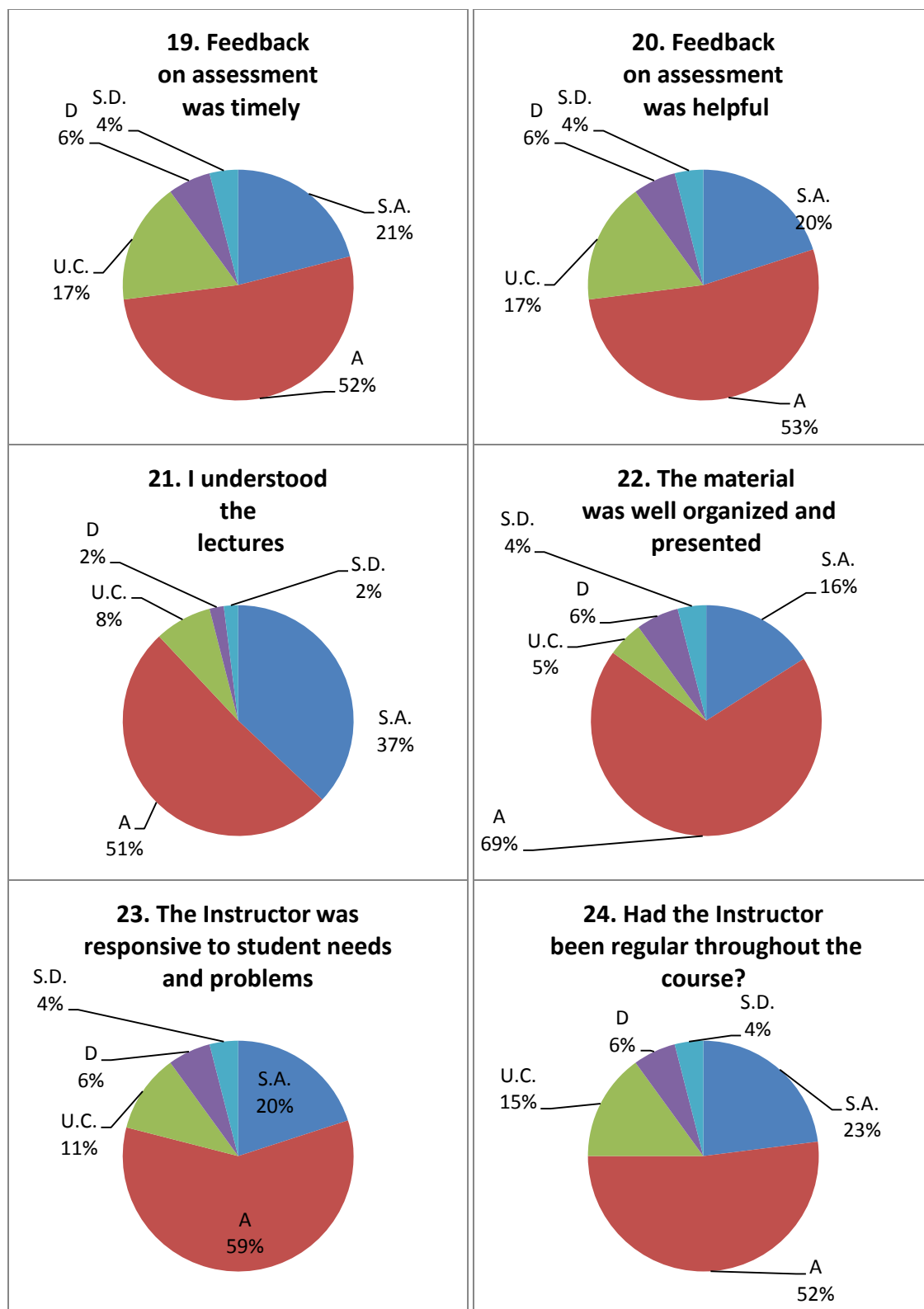


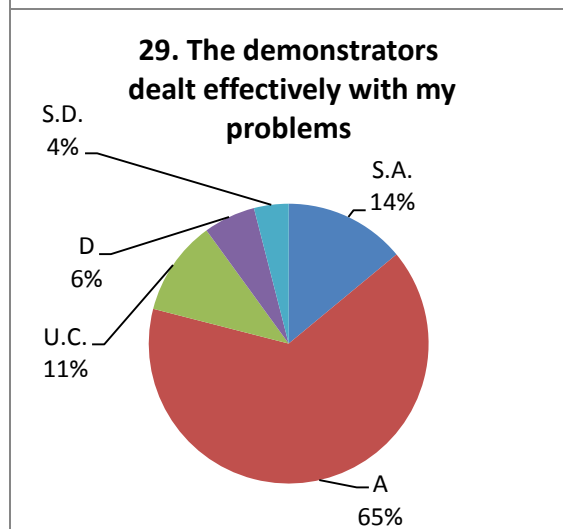
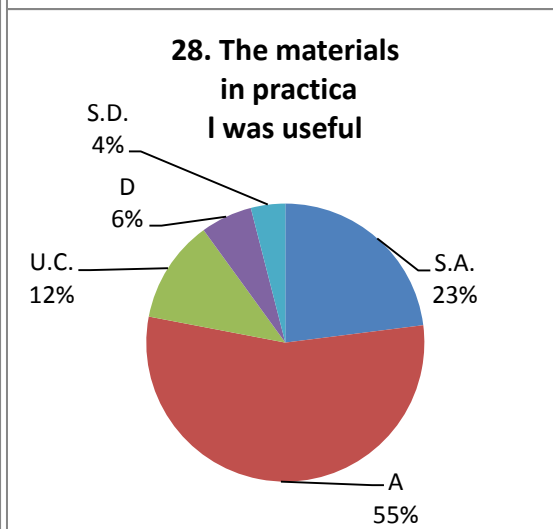
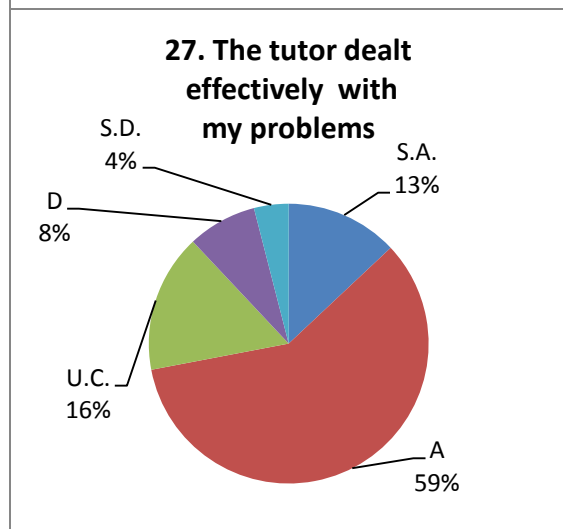
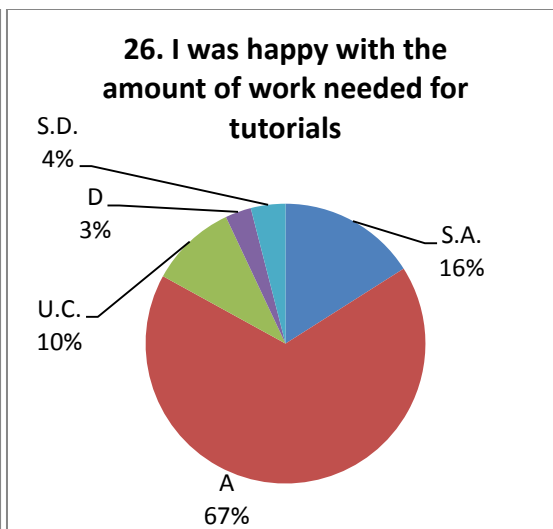
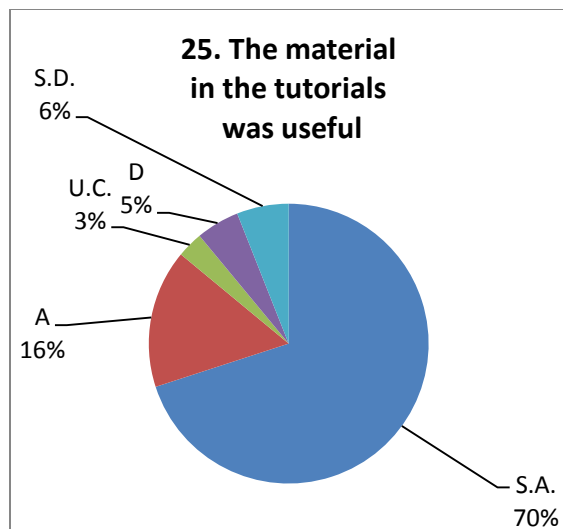
17. Ideas and concepts were presented clearly



18. The methods of assessment were reasonable





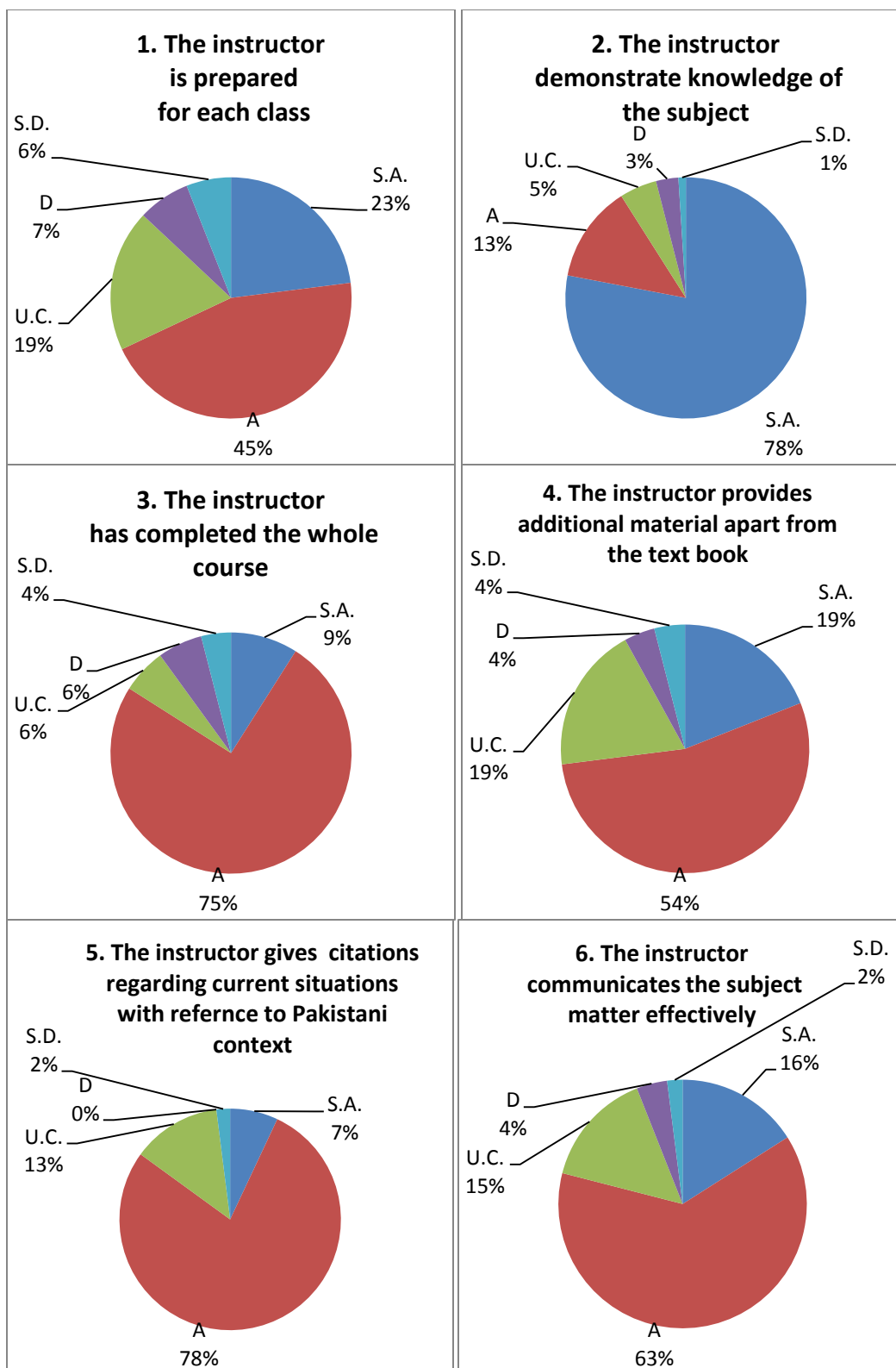


Dr. Fayyaz ul Hassan**i. Teacher Evaluation**

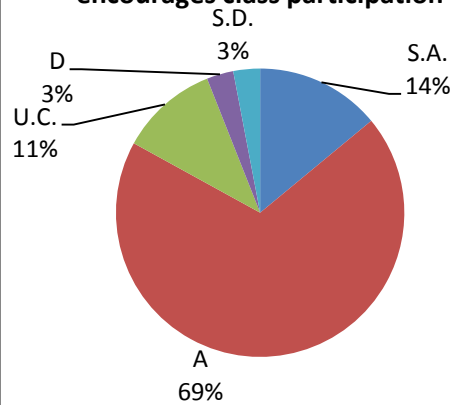
Data were collected from 18 students. Comparative graph of teachers' evaluation exhibited that Prof. Dr. F.H. Sahi had a very good impact value of 4.62. The evaluation criteria parameters showed that the 23% of the students strongly agreed, 45% agreed, 19% uncertain, 7% disagreed, and 6% strongly disagreed that the instructor was prepared for each class. The data of other parameters inferred that major proportion of the students are agreed that the teacher is fair in examination, the instructor came with good preparation, instructor demonstrates knowledge of the subject, instructor had completed the whole course, the Instructor provided additional material apart from the textbook, the Instructor gave citations regarding current situations with reference to Pakistani context, the Instructor communicates the subject matter, the Instructor shows respect towards students and encourages class participation effectively, the Instructor maintained an environment that was conducive to learning, the Instructor arrived on time, the Instructor returned the graded scripts etc. in a reasonable amount of time, the Instructor was available during the specified office hours after class for consultations, the Subject matter presented in the course has increased their knowledge of the subject.

Comments / Suggestions

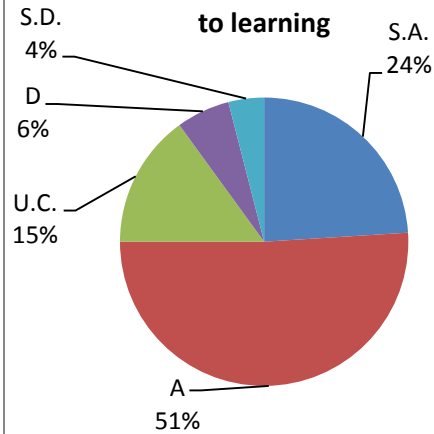
- Knowledge environment and resources were not satisfactory.
- Concepts of the teacher were clear during each lecture.
- The teacher deliberates each lecture after thorough preparation.
- The teacher is punctual and the pace of lecture is parallel to the teaching schedule.



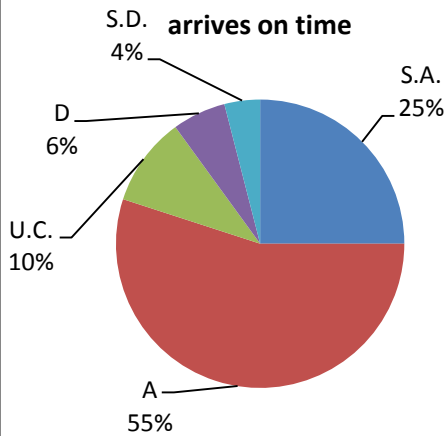
7. The instructors shows respect towards students and encourages class participation



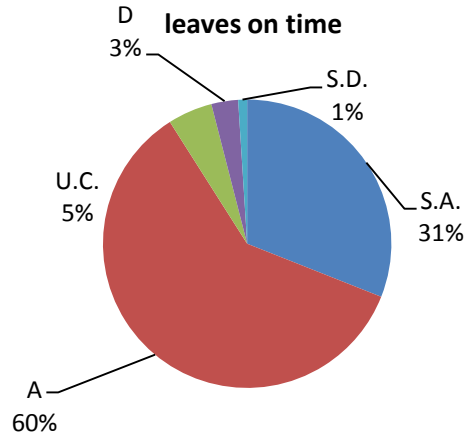
8. The instructor maintain an environment that is conducive to learning



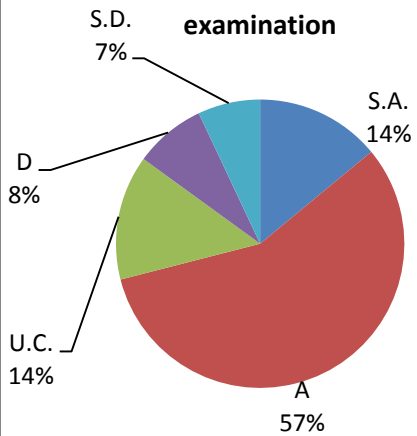
9. The instructor arrives on time



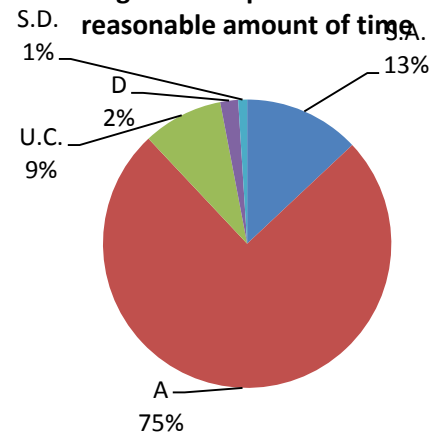
10. The instructor leaves on time



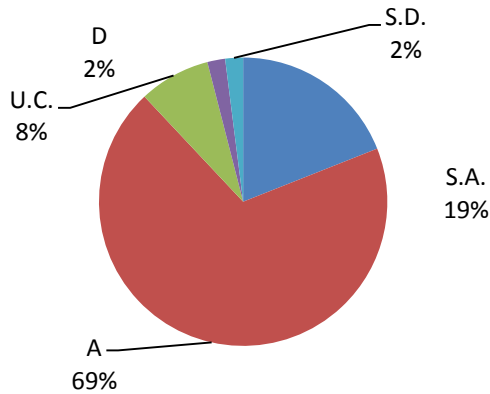
11. The instructor is fair in examination



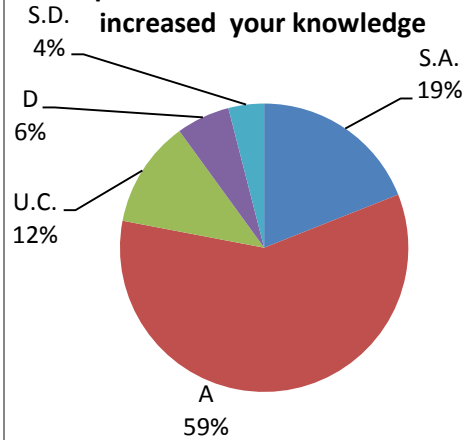
12. The instructor returns the grades scripts etc in a reasonable amount of time



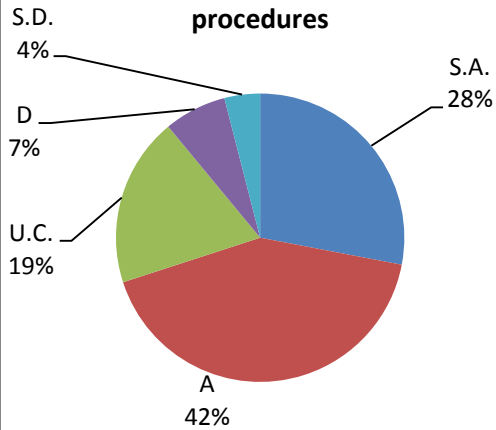
13. The instructor was available during the specified office hours and for after class consultations



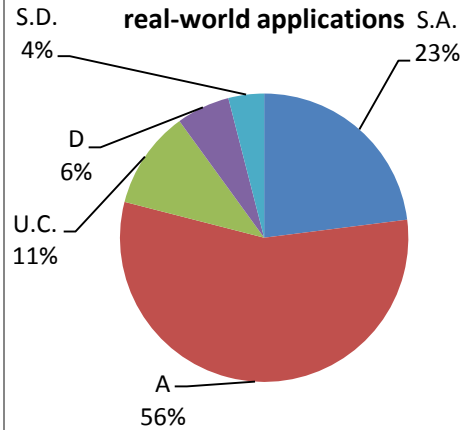
14. The subject matter presented in the course has increased your knowledge



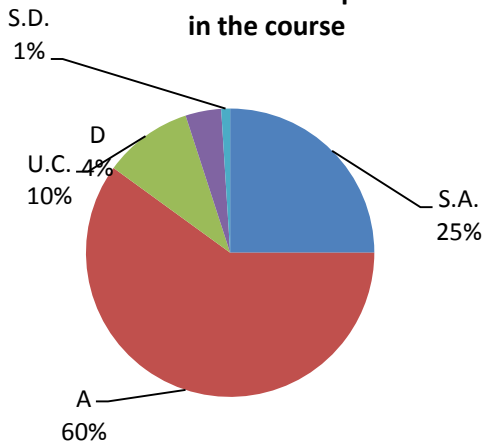
15. The syllabus clearly states course objectives requirements, procedures



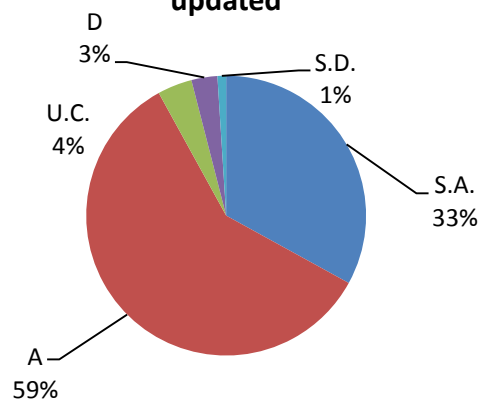
16. The course integrates theoretical course concepts with real-world applications



17. The assignments and exams covered the materials presented in the course



18. The course material is modern and updated



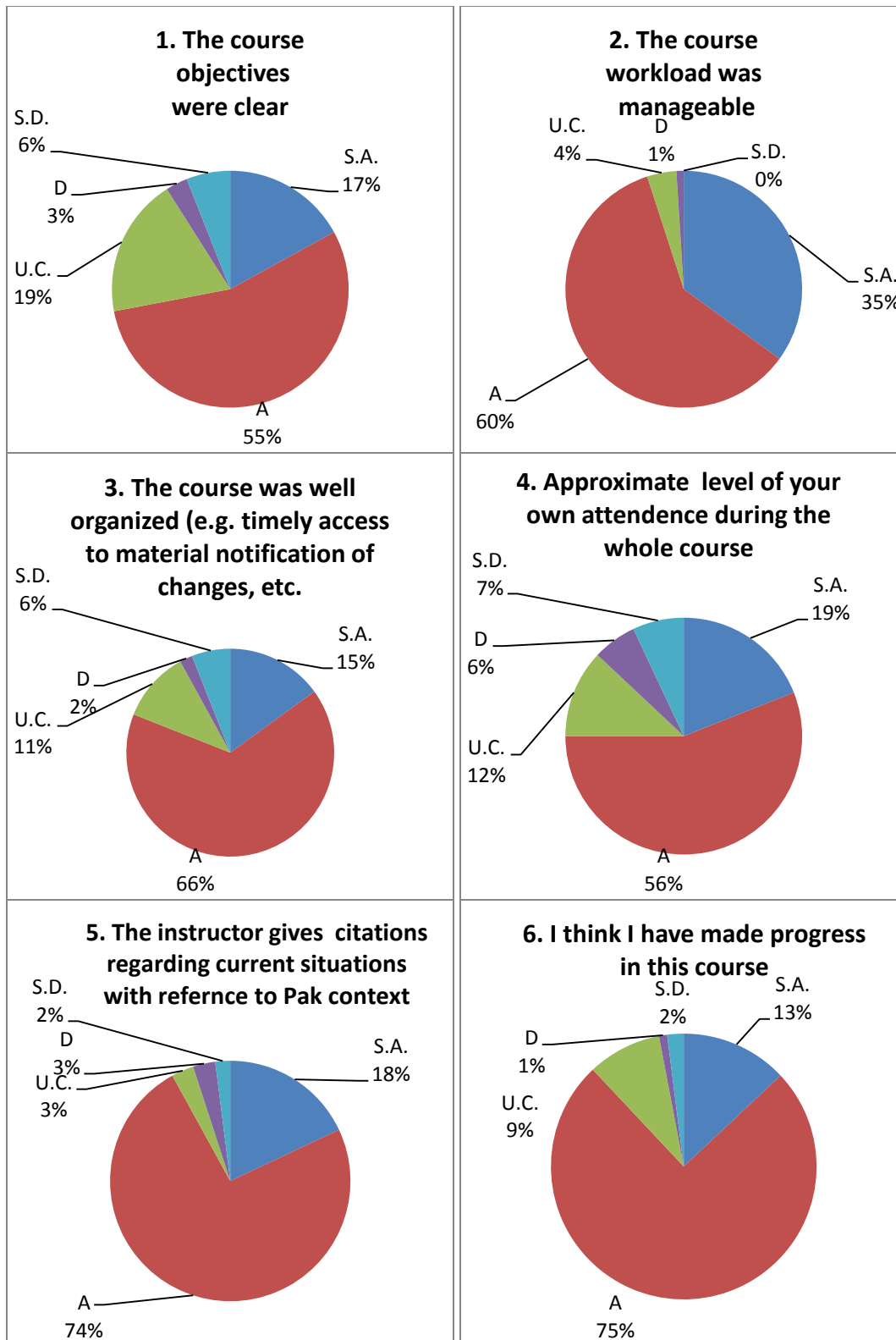
ii. Course Evaluation

AGR-702	Advanced Agronomy	4(3-2)	Dr. Fayyaz ul Hassan
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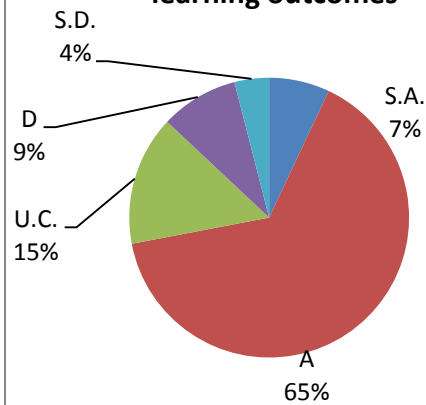
Data were collected from 18 students. Comparative graph of course evaluation showed, that the course (AGR-702) taught by Dr. Fayyaz ul Hassan had an impact value of 4.6. The individual parameter showed that 17% the students strongly agreed, 55% agreed, 19% uncertain, 3% disagreed and 6% strongly disagreed that the course objectives were clear. Data regarding other parameters showed that major proportion of the students agreed about the effectiveness and objectivity of the course, the course objectives were clear, the course workload was manageable, well organized, agreed that the approximate level of student's attendance during the whole course was higher; students participated actively in the course and have made progress in this course, the course was well structured to achieve the learning outcomes (there was a good balance of lectures, tutorials, practical etc.). Similarly, they agreed that the learning and teaching methods encouraged participation, the overall environment in the class was conducive to learning, and classrooms were satisfactory, learning materials (Lesson Plans, Course Notes etc.) were relevant and useful, recommended reading books etc. were relevant and appropriate. They described that the provision of learning resources in the library was adequate and the course stimulated their interest and thought on the subject area. According to most of the students, the pace of the Course was appropriate, ideas and concepts were presented clearly, the method of assessment were reasonable.

Comments / Suggestions

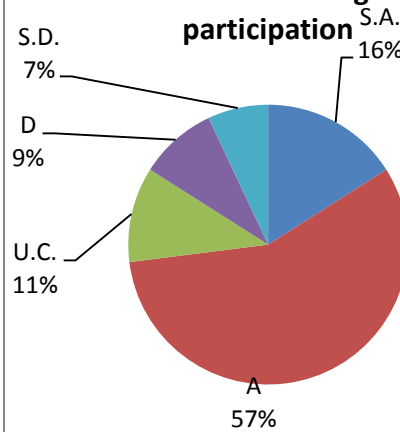
- The course was very comprehensive and presents the myth of agronomic principles.
- Course contents were not properly designed
- Course effectiveness can be enhanced practicals and field excursions.
- Class environment was not conducive for high profiled learning.
- Lack of ideal environment of the class which is needed to be improved.
- Course was puzzling and course objectives were not clear



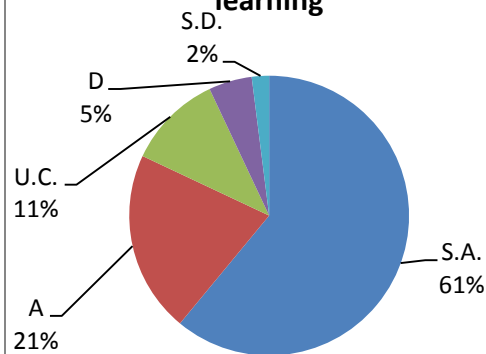
7. I think the course was well constructed to achieve the learning outcomes



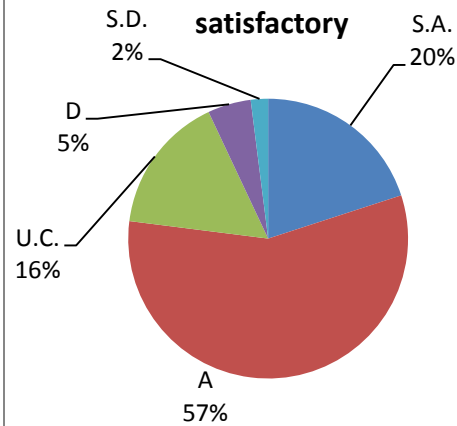
8. The learning and teaching method encouraged participation



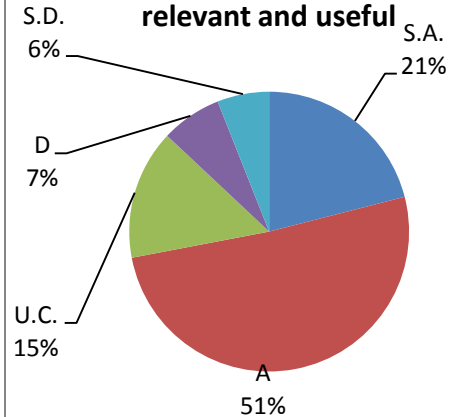
9. The overall environment in the class was conducive to learning



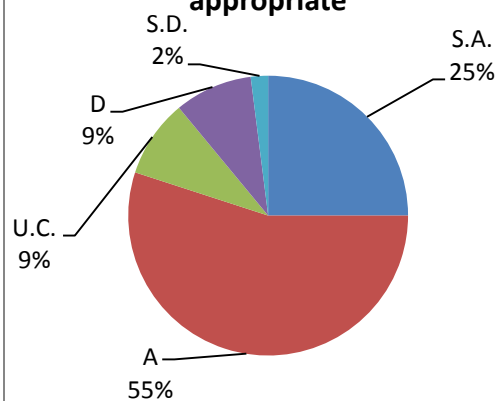
10. Classrooms were satisfactory



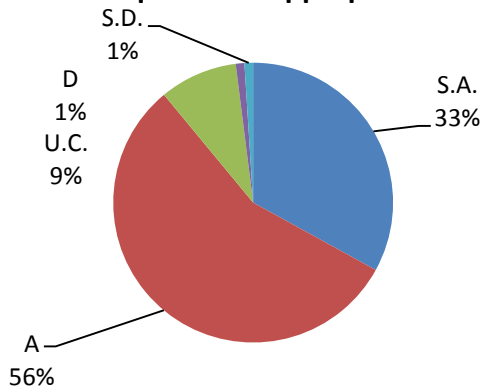
11. Learning materials(lesson plans, course notes etc.)were relevant and useful



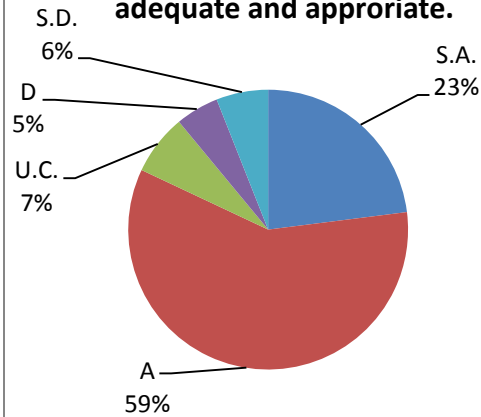
12. Recommended reading books etc. were relevant and appropriate



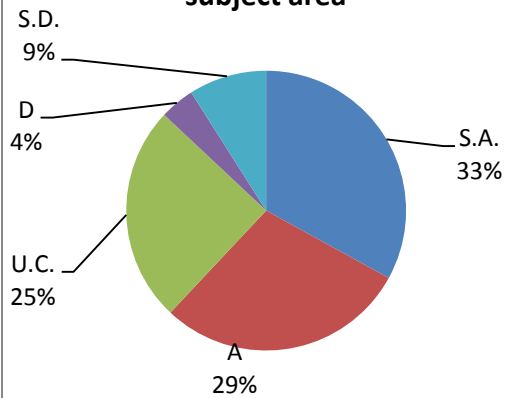
13. The provision of learning resources in the library was adequate and appropriate



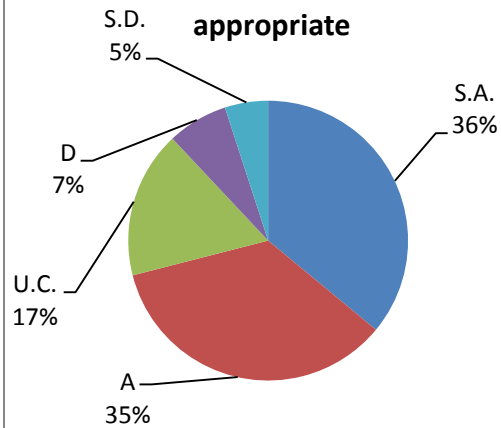
14. The provision of learning resources on the web adequate and appropriate.



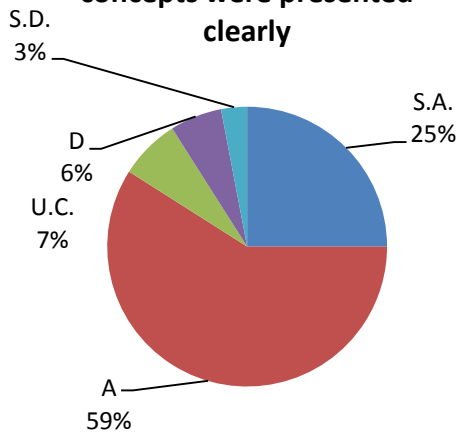
15. The course stimulated by interest and thought on the subject area



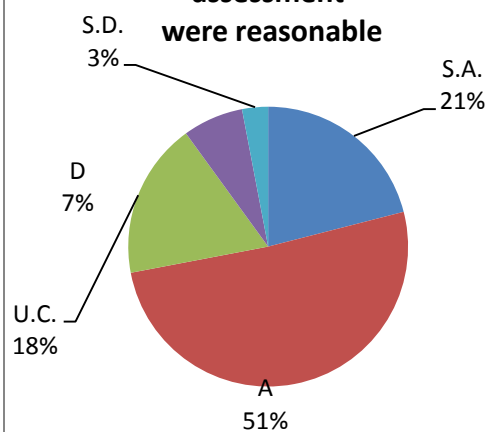
16. The pace of the course was appropriate



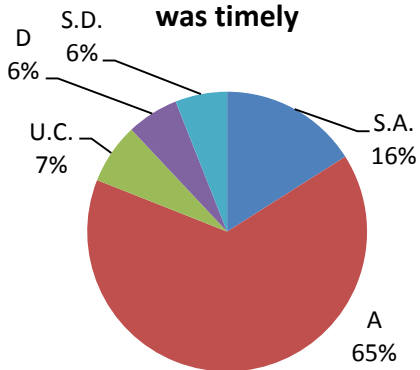
17. Ideas and concepts were presented clearly



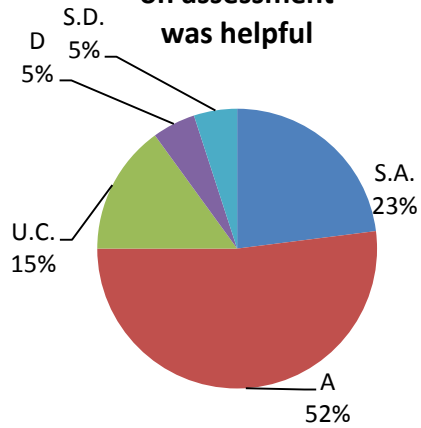
18. The methods of assessment were reasonable



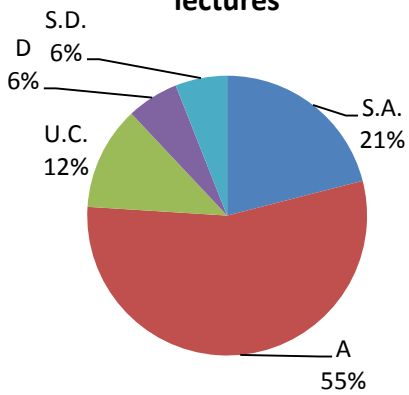
19. Feedback on assessment was timely



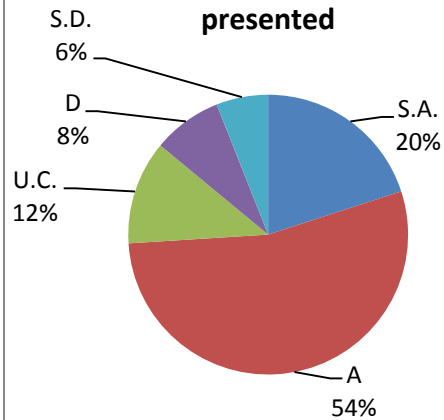
20. Feedback on assessment was helpful



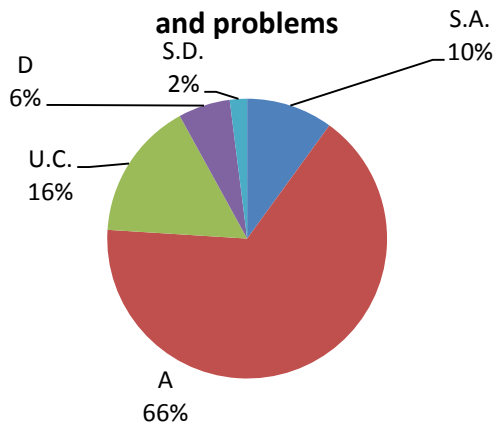
21. I understood the lectures



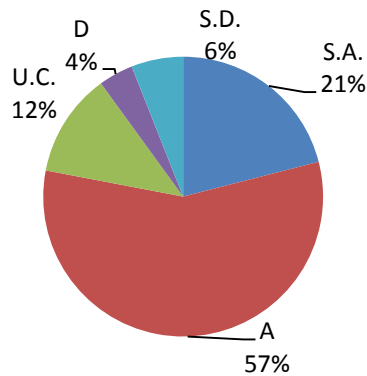
22. The material was well organized and presented



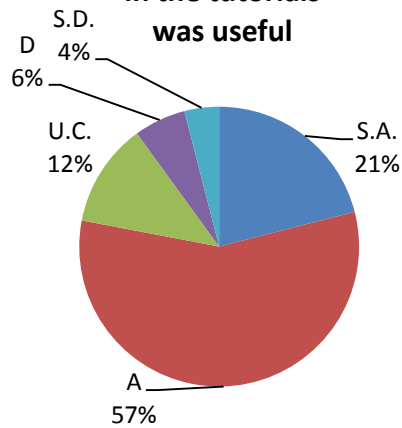
23. The Instructor was responsive to student needs and problems



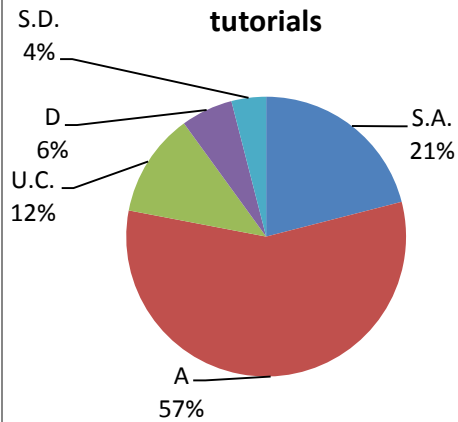
24. Had the Instructor been regular throughout the course?



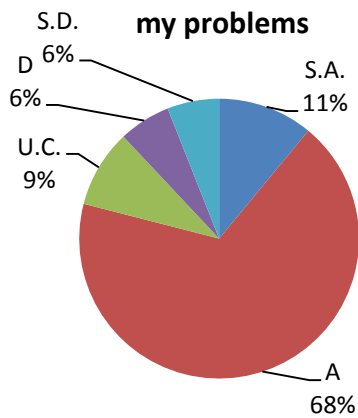
25. The material in the tutorials was useful



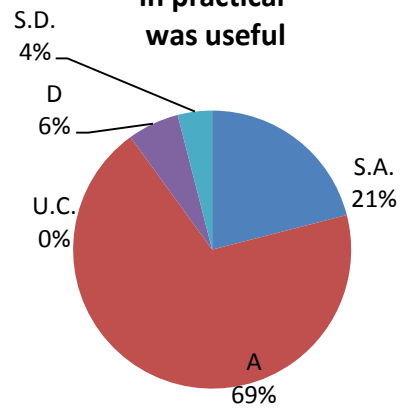
26. I was happy with the amount of work needed for tutorials



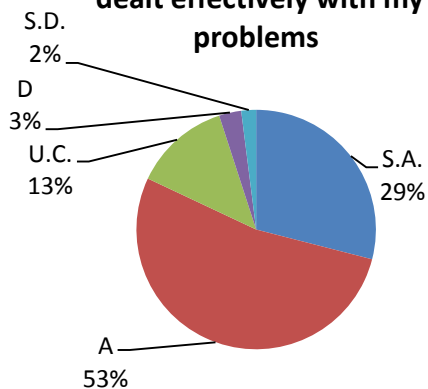
27. The tutor dealt effectively with my problems



28. The materials in practical was useful



29. The demonstrators dealt effectively with my problems

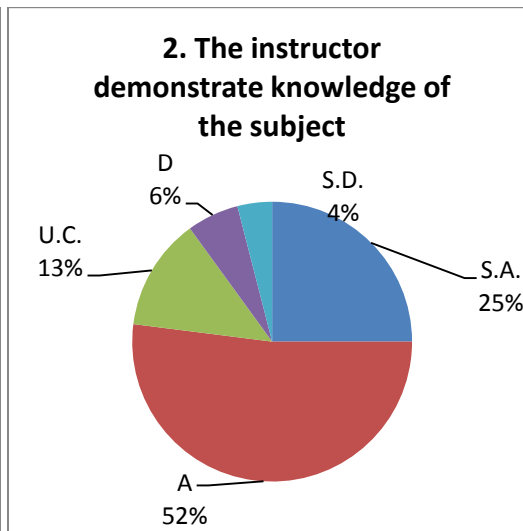
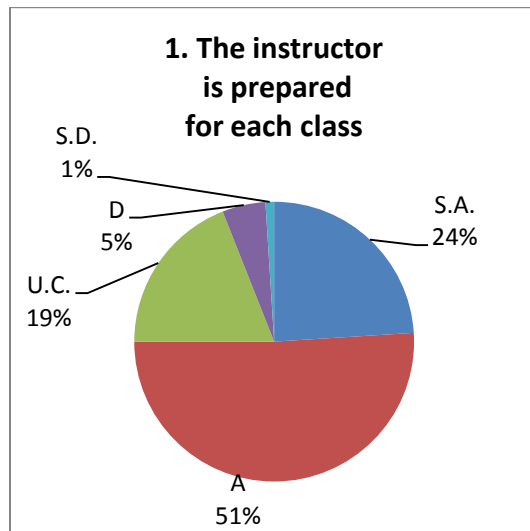


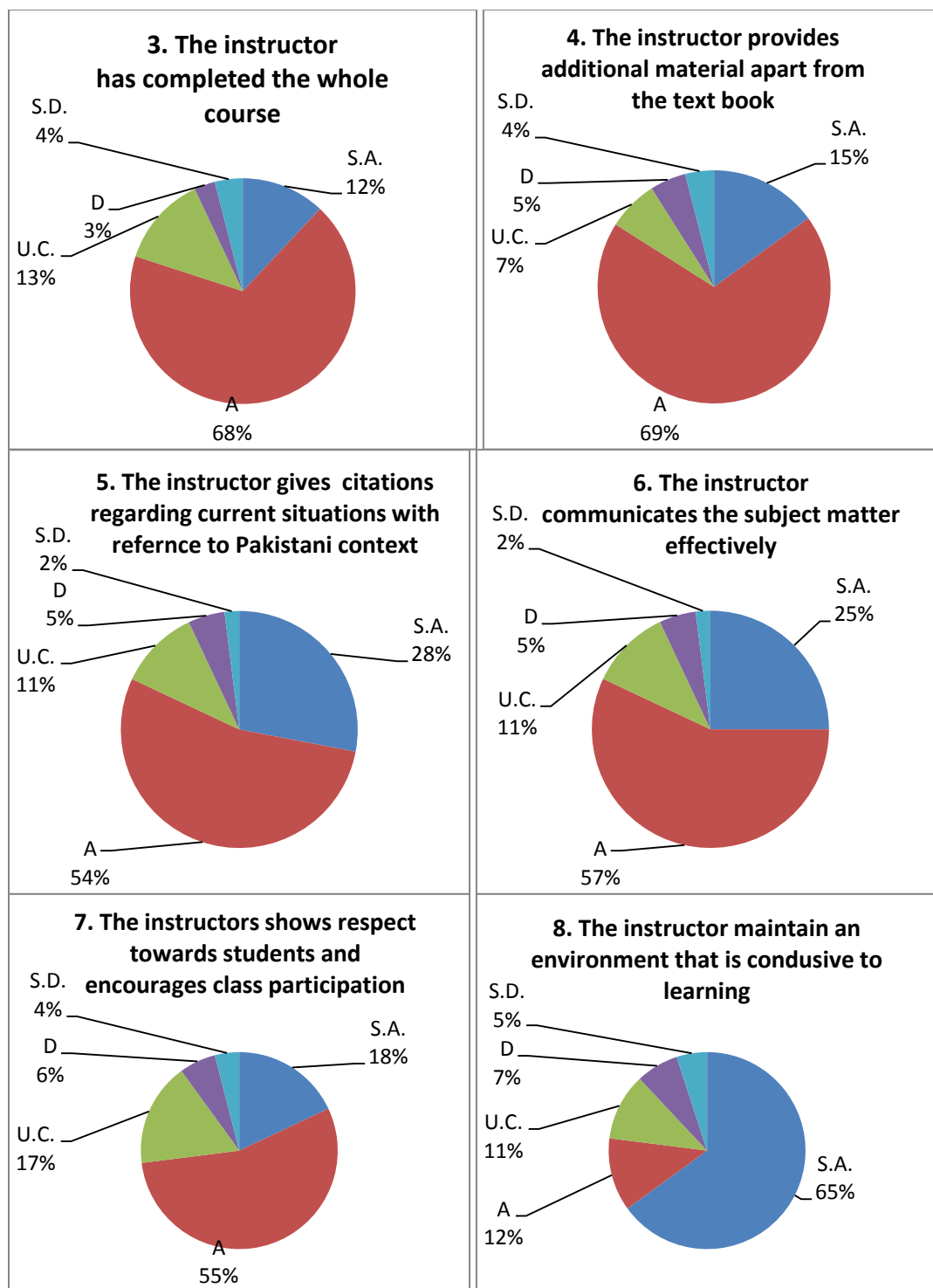
Dr. Muhammad Azim Malik**i. Teacher Evaluation**

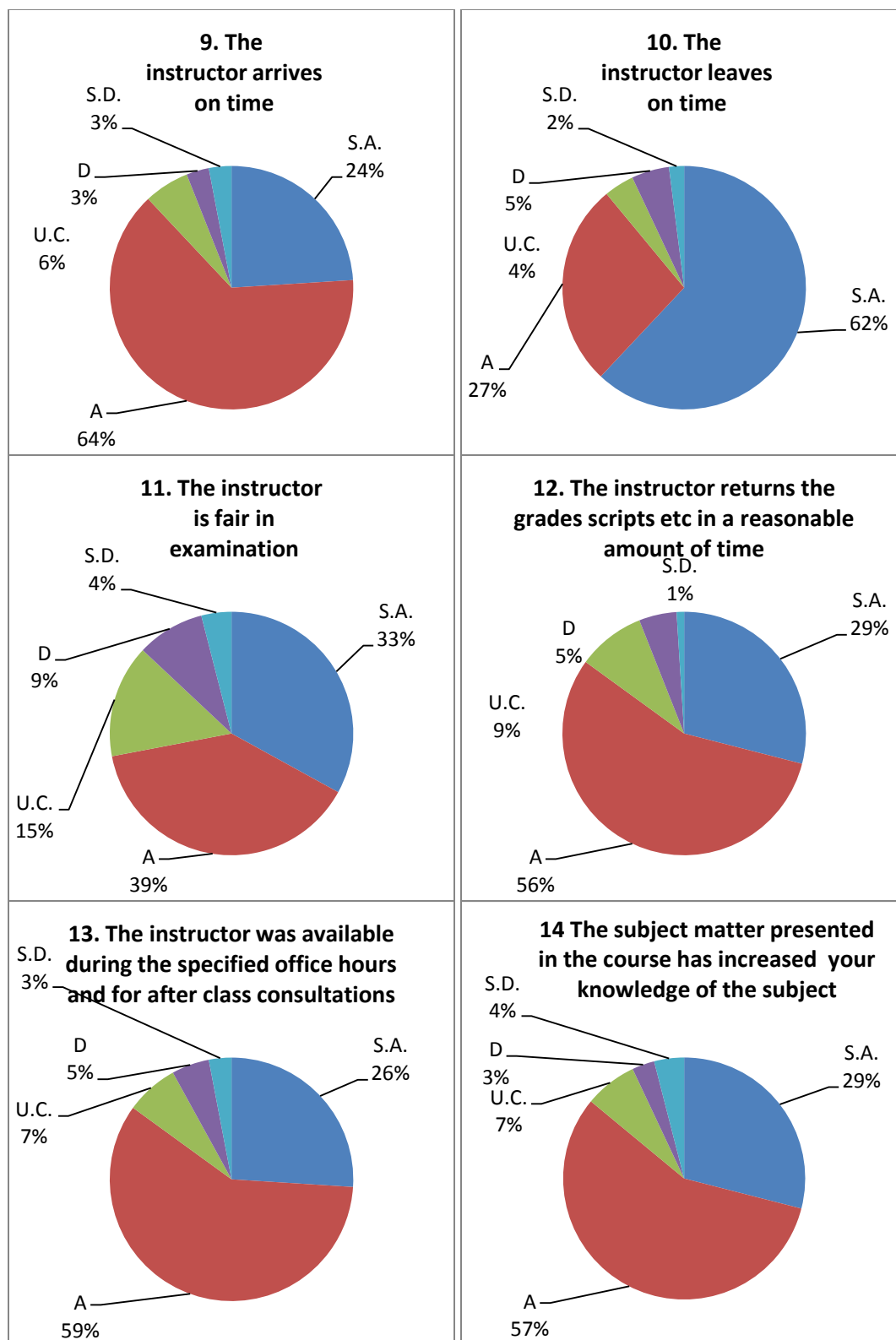
Data were collected from 18 M. Sc. students. Comparative graph of teachers' evaluation exhibited that Dr. Muhammad Azim Malik had an excellent impact value of 4.63. The evaluation criteria parameters showed that the 24% of the students strongly agreed, 51% agreed, 19% uncertain, 5% disagreed, and 1% strongly disagreed that the instructor was prepared for each class. The data of other parameters inferred that major proportion of the students are agreed that the teacher was fair in examination, came with good preparation, the instructor demonstrates knowledge of the subject, instructor had completed the whole course, the Instructor provided additional material apart from the textbook, the Instructor gave citations regarding current situations with reference to Pakistani context, the Instructor communicates the subject matter, the Instructor shows respect towards students and encourages class participation effectively, the Instructor maintained an environment that was conducive to learning, the instructor arrived on time, the Instructor returned the graded scripts etc. in a reasonable amount of time, the Instructor was available during the specified office hours after class for consultations.

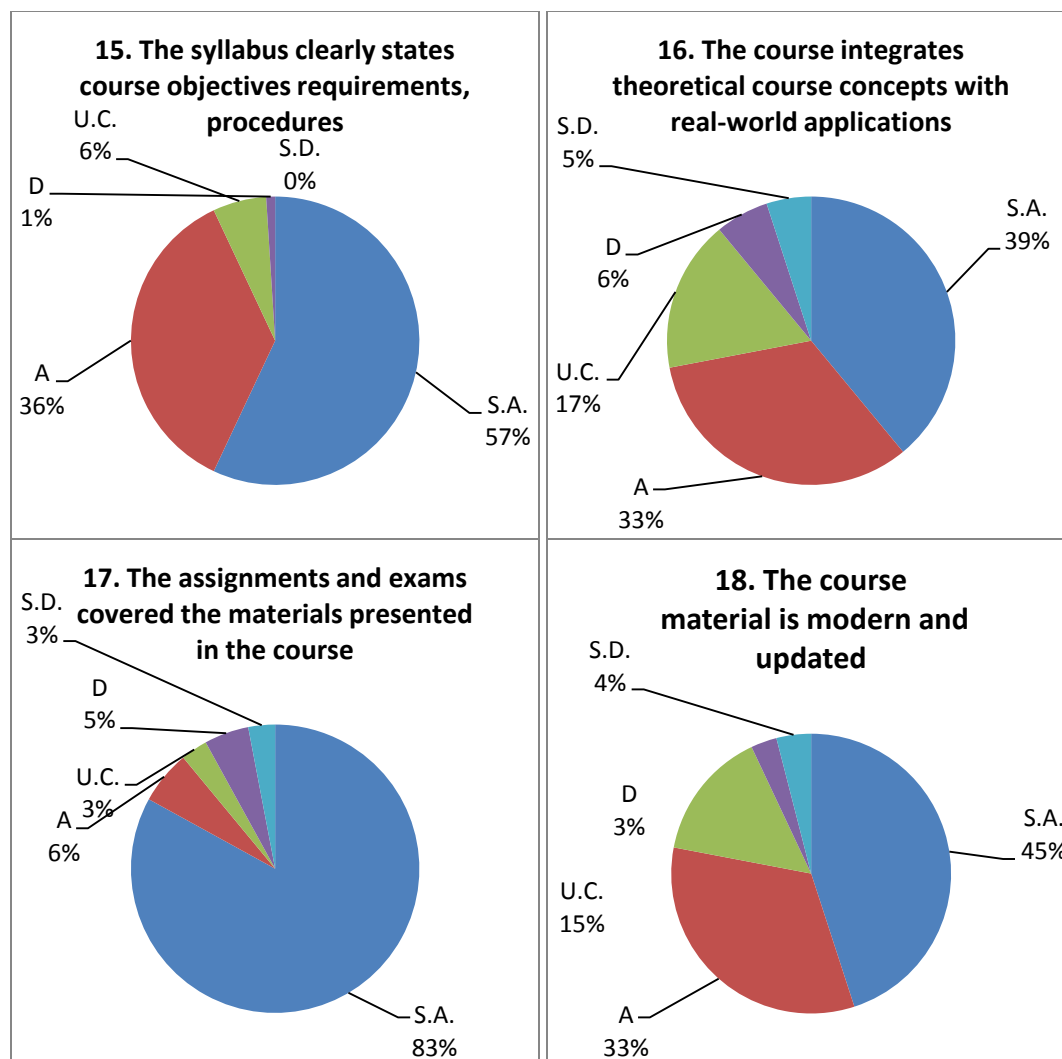
Comments/Suggestions

1. Kind and good teacher with amiable and parental attitude with the students.
2. Always teaches his practical experiences to make the understanding of the subject effective.
3. Course was accomplished in appropriate time and was very motivating









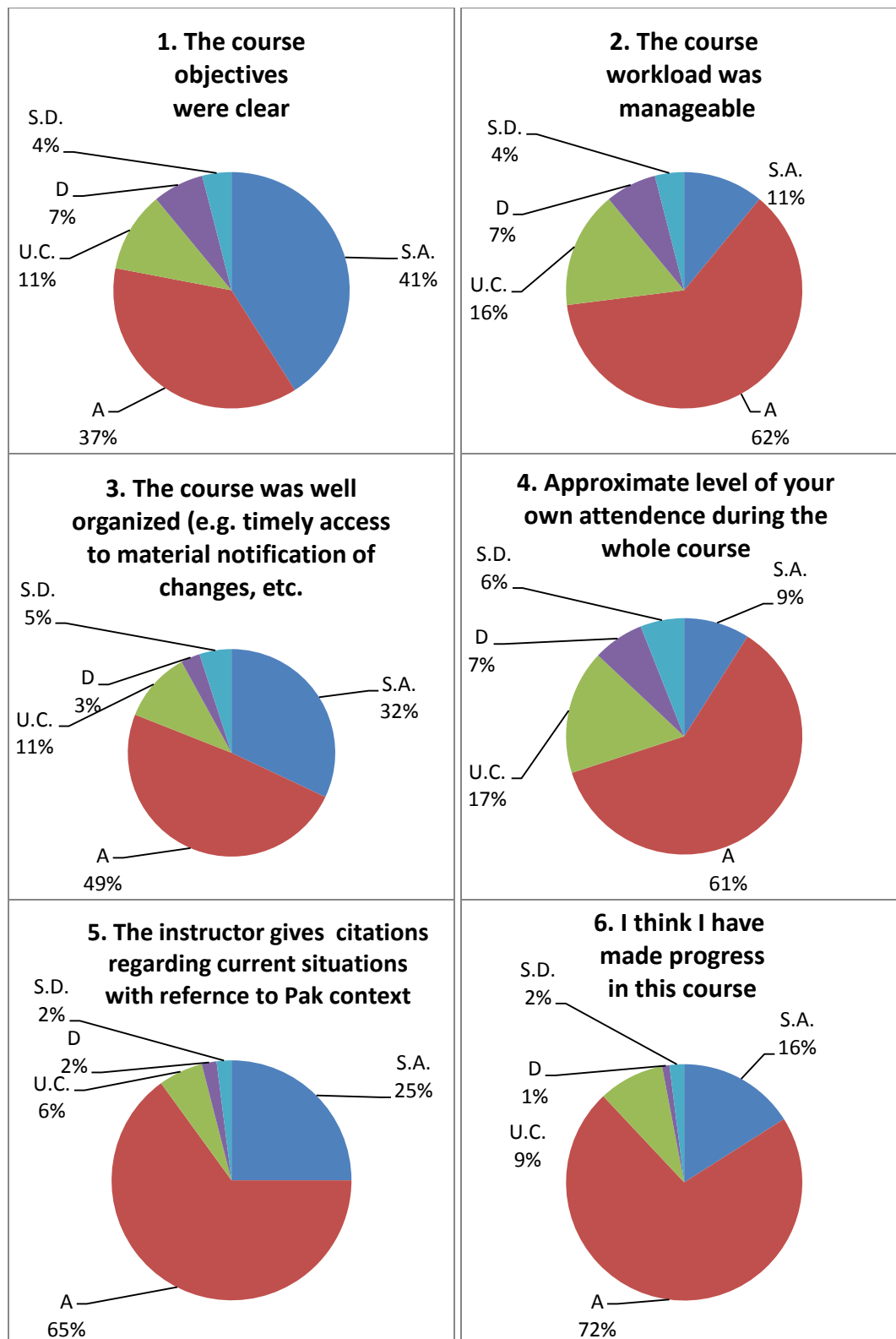
ii. Course Evaluation

AGR-703	Dryland agro-management	3(3-0)	Dr. Muhammad Azim Malik
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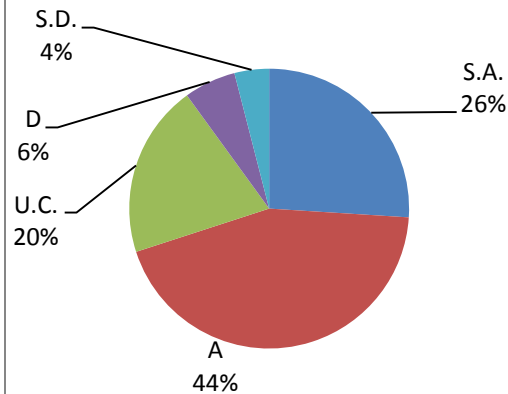
Data were collected from 18 M. Sc students. Comparative graph of course evaluation showed, that the course (AGR-703) taught by Dr. Muhammad Azim Malik had an impact value of 4.7. The individual parameter showed that 41% the students strongly agreed, 37% agreed, 11% uncertain, 7% disagreed and 4% strongly disagreed that the course objectives were clear. Data regarding other parameters showed that major proportion of the students agreed about the effectiveness and objectivity of the course, the course objectives were clear, the course workload was manageable, well organized, the approximate level of student's attendance during the whole course was higher; students participated actively in the course and have made progress in this course. Most of the students agreed that the course was well structured to achieve the learning outcomes, the learning and teaching methods encouraged participation, the overall environment in the class was conducive to learning, and classrooms were satisfactory, learning materials (Lesson Plans, Course Notes etc.) were relevant and useful, recommended reading books etc. were relevant and appropriate, the provision of learning resources in the library was adequate and the course stimulated their interest and thought on the subject area. According to most of the students, the pace of the Course was appropriate, ideas and concepts were presented clearly, the method of assessment were reasonable.

Comments / Suggestions

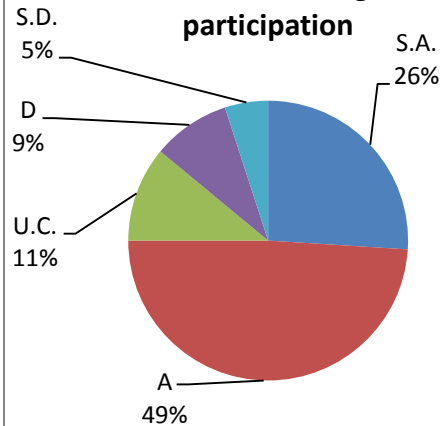
- Learning resources were disappointing.
- Suggested books were not available in the library.
- Course was interesting and knowledgeable.
- Course was helpful for future



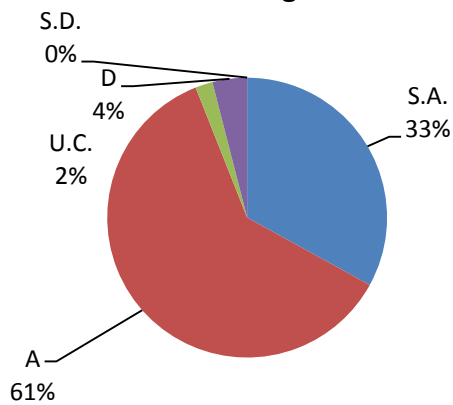
7. I think the course was well constructed to achieve the learning outcomes



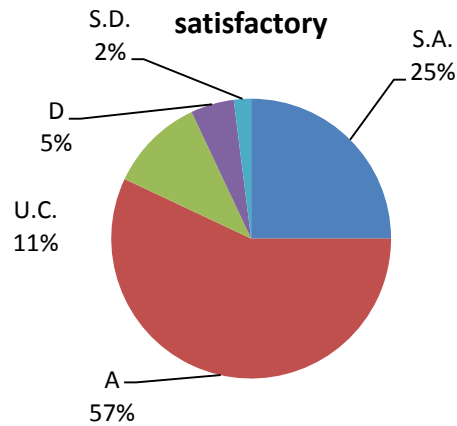
8. The learning and teaching method encouraged participation



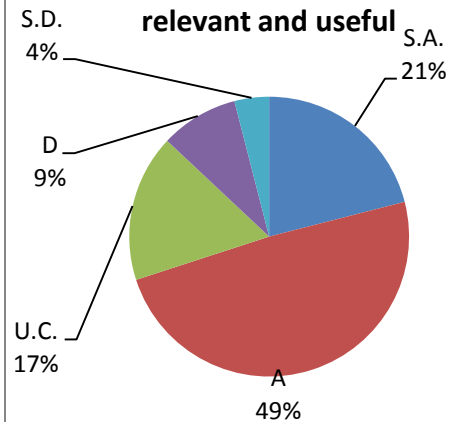
9. The overall environment in the class was conducive to learning



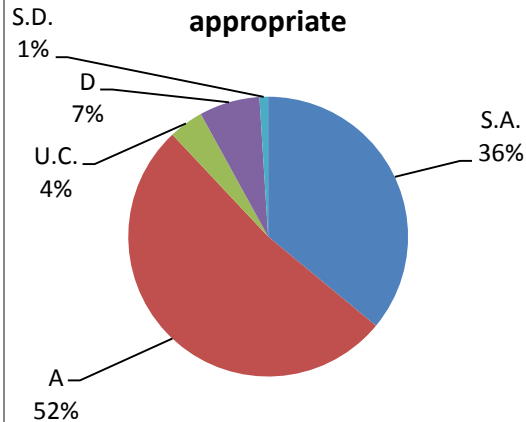
10. Classrooms were satisfactory

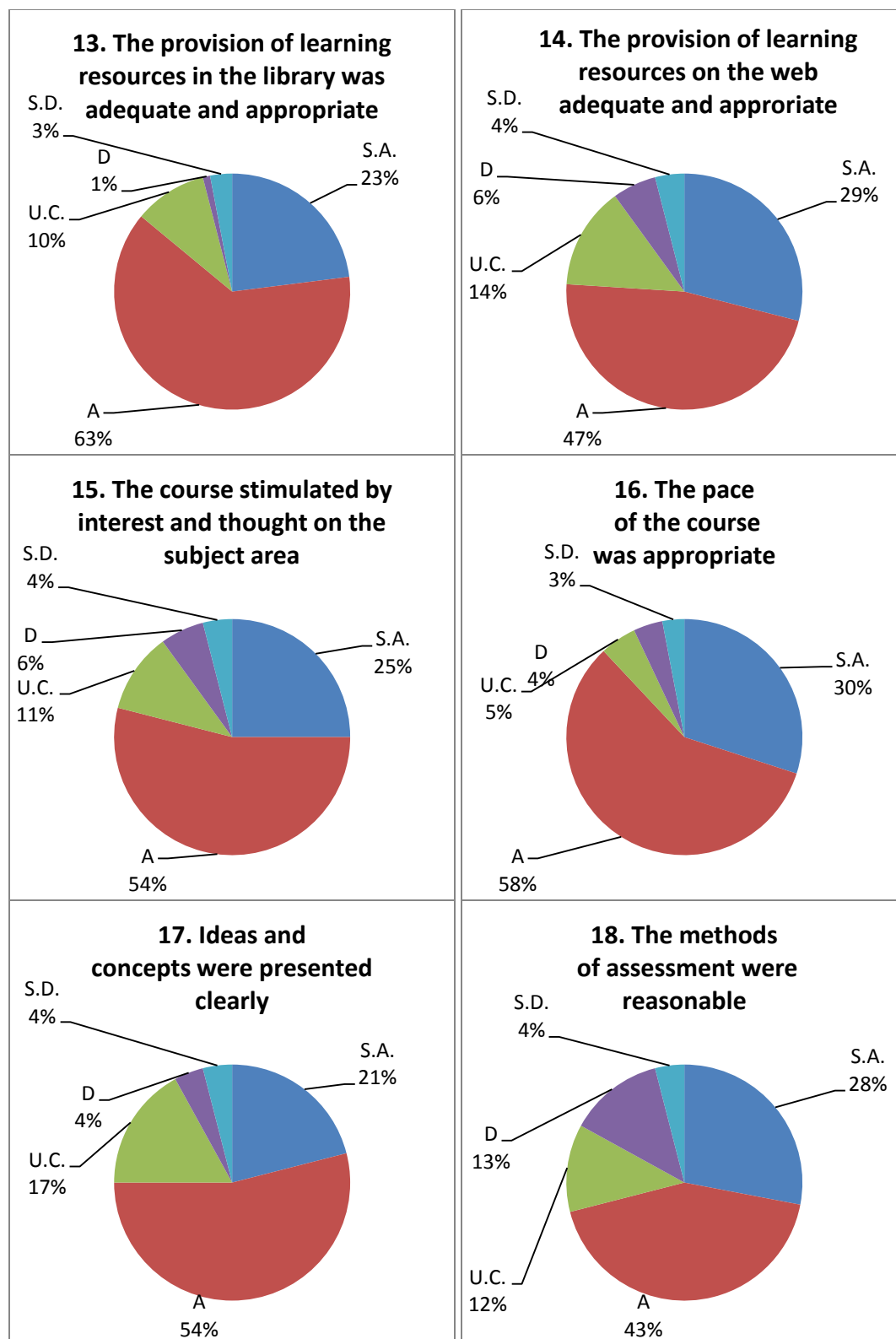


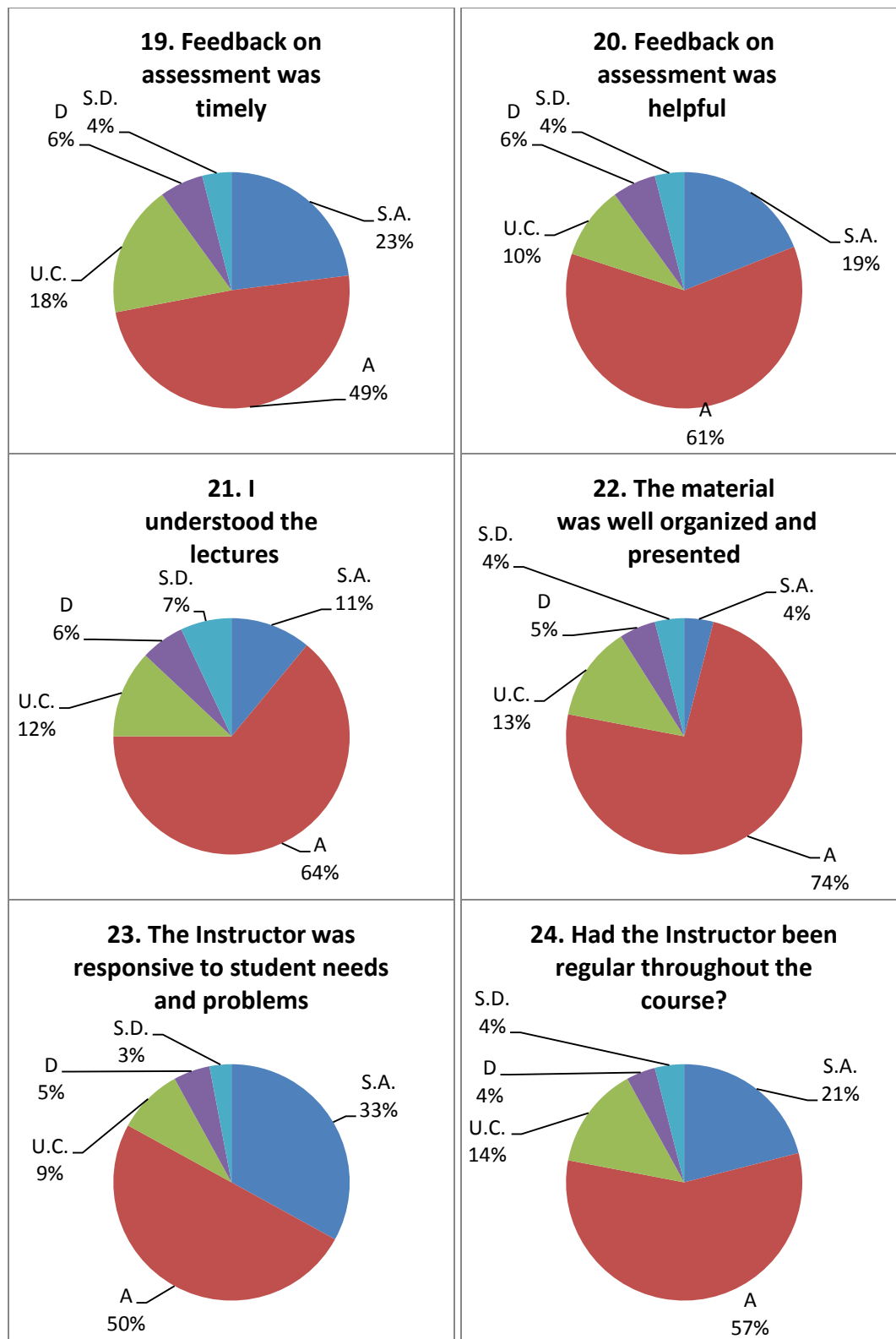
11. Learning materials(lesson plans, course notes etc.)were relevant and useful

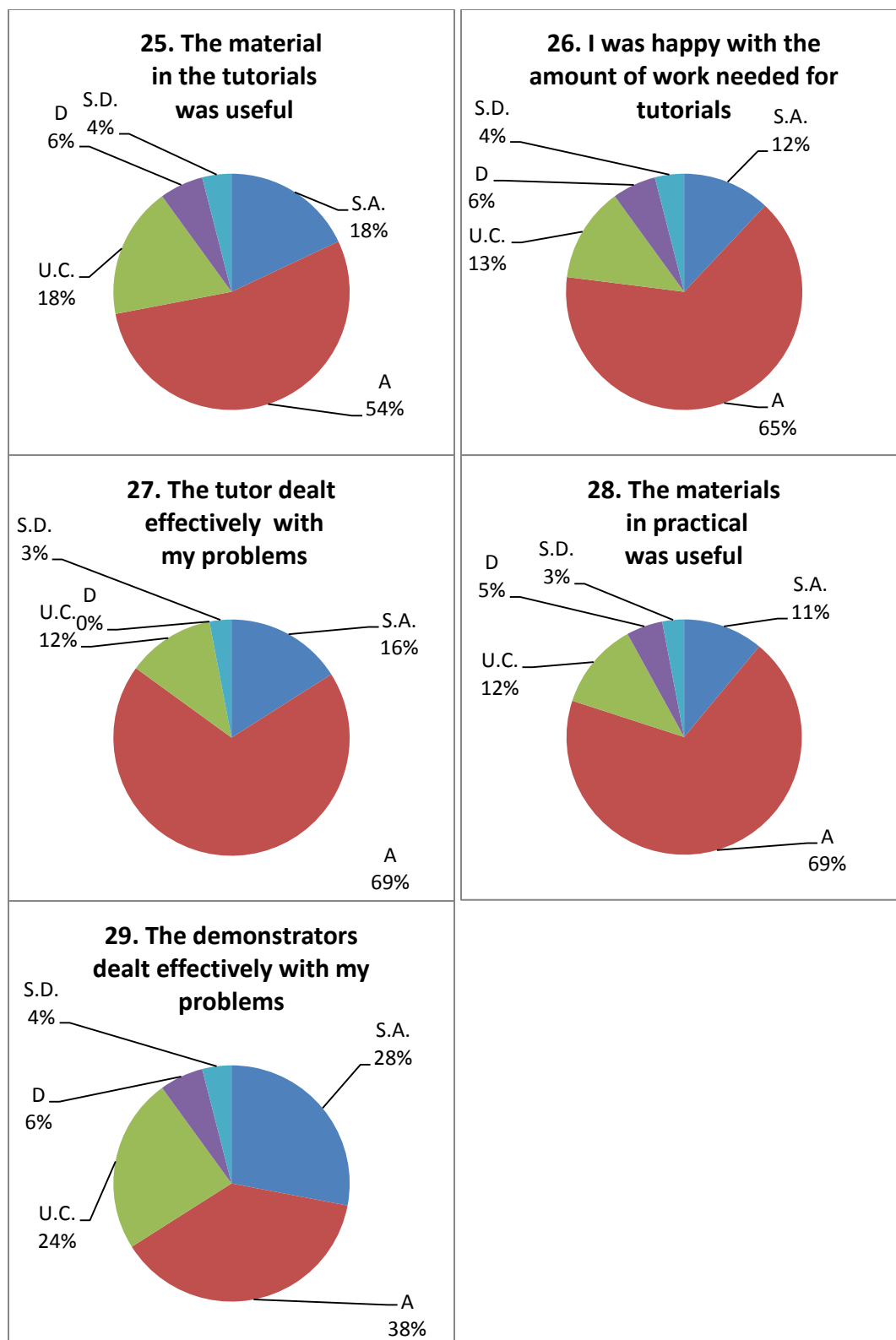


12. Recommended reading books etc. were relevant and appropriate







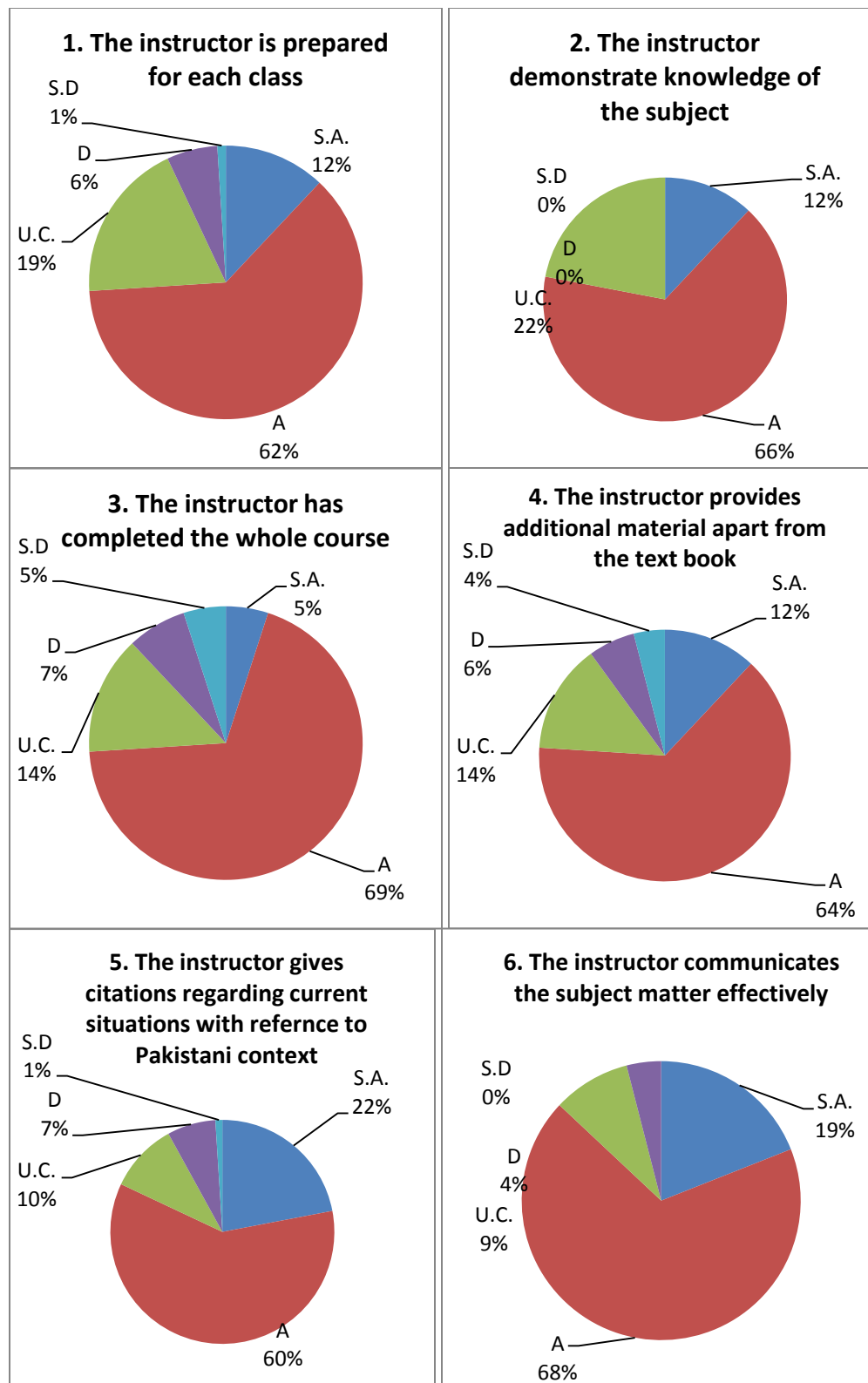


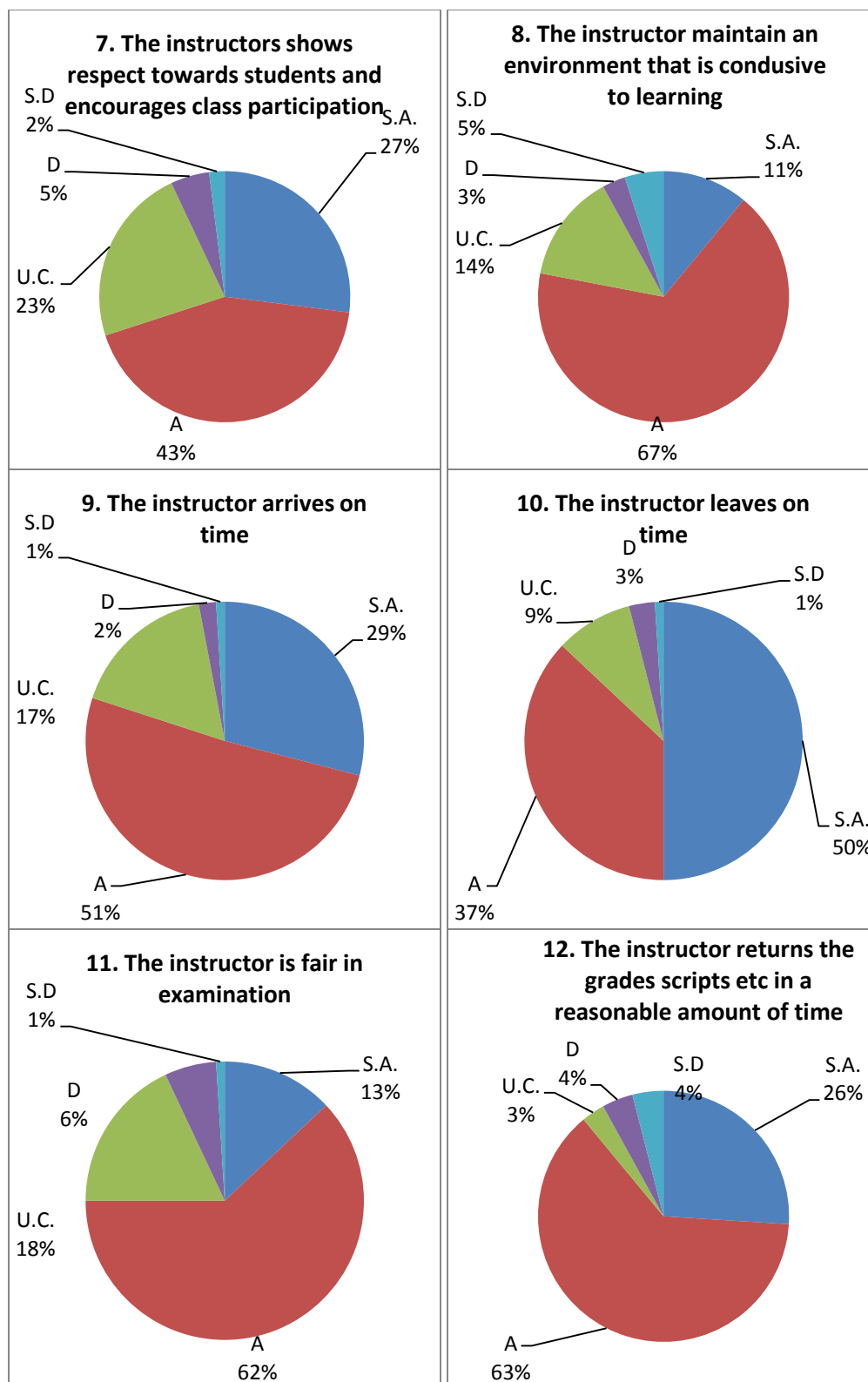
Dr. Irfan Aziz**i. Teacher Evaluation**

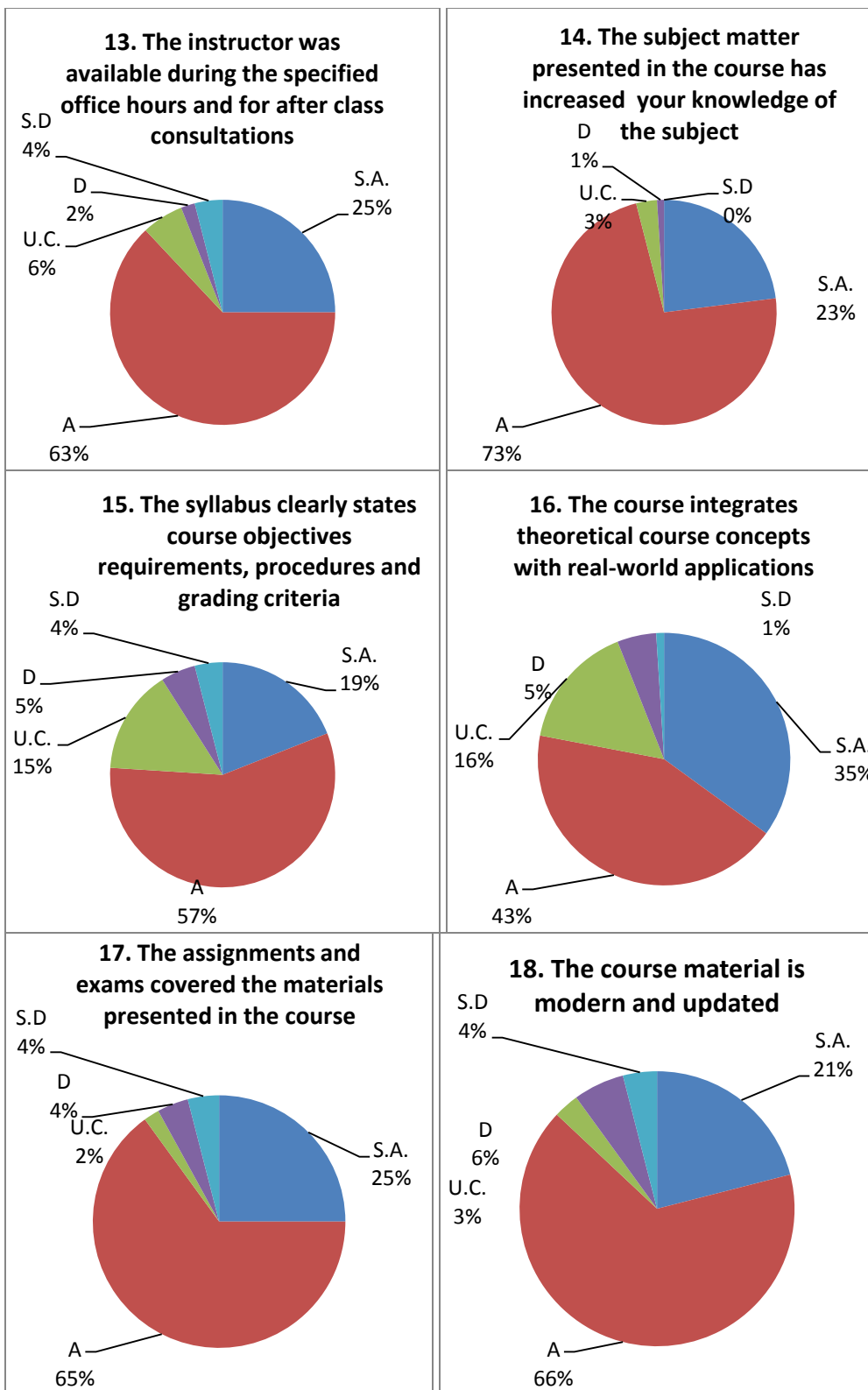
Data were collected from 18 students. Comparative graph of teachers' evaluation exhibited that Dr. Irfan Aziz had an excellent impact value of 4.62. The evaluation criteria parameters showed that the 12% of the students strongly agreed, 62% agreed, 19% uncertain, 6% disagreed, and 1% strongly disagreed that the instructor was prepared for each class. The data of other parameters inferred that major proportion of the students are agreed that, the performance and expertness of the teacher, the instructor came with good preparation, instructor demonstrates knowledge of the subject, instructor had completed the whole course, the Instructor provided additional material apart from the textbook, the Instructor gave citations regarding current situations with reference to Pakistani context, the Instructor communicates the subject matter, the Instructor shows respect towards students and encourages class participation effectively, the Instructor maintained an environment that was conducive to learning, the Instructor arrived on time, the Instructor returned the graded scripts etc. in a reasonable amount of time, the Instructor was available during the specified office hours after class for consultations, the Subject matter presented in the course has increased their knowledge of the subject, the syllabus clearly states course objectives requirements, procedures and grading criteria, the course integrates theoretical course concepts with real-world applications, and the assignments and exams covered the materials presented in the course, the course material is modern and updated.

Comments/Suggestions

4. Teacher was kind enough and always welcomes the questions during the lectures.
5. Good quality performance of the teacher and was obtainable any time.
6. Good skills of communication.







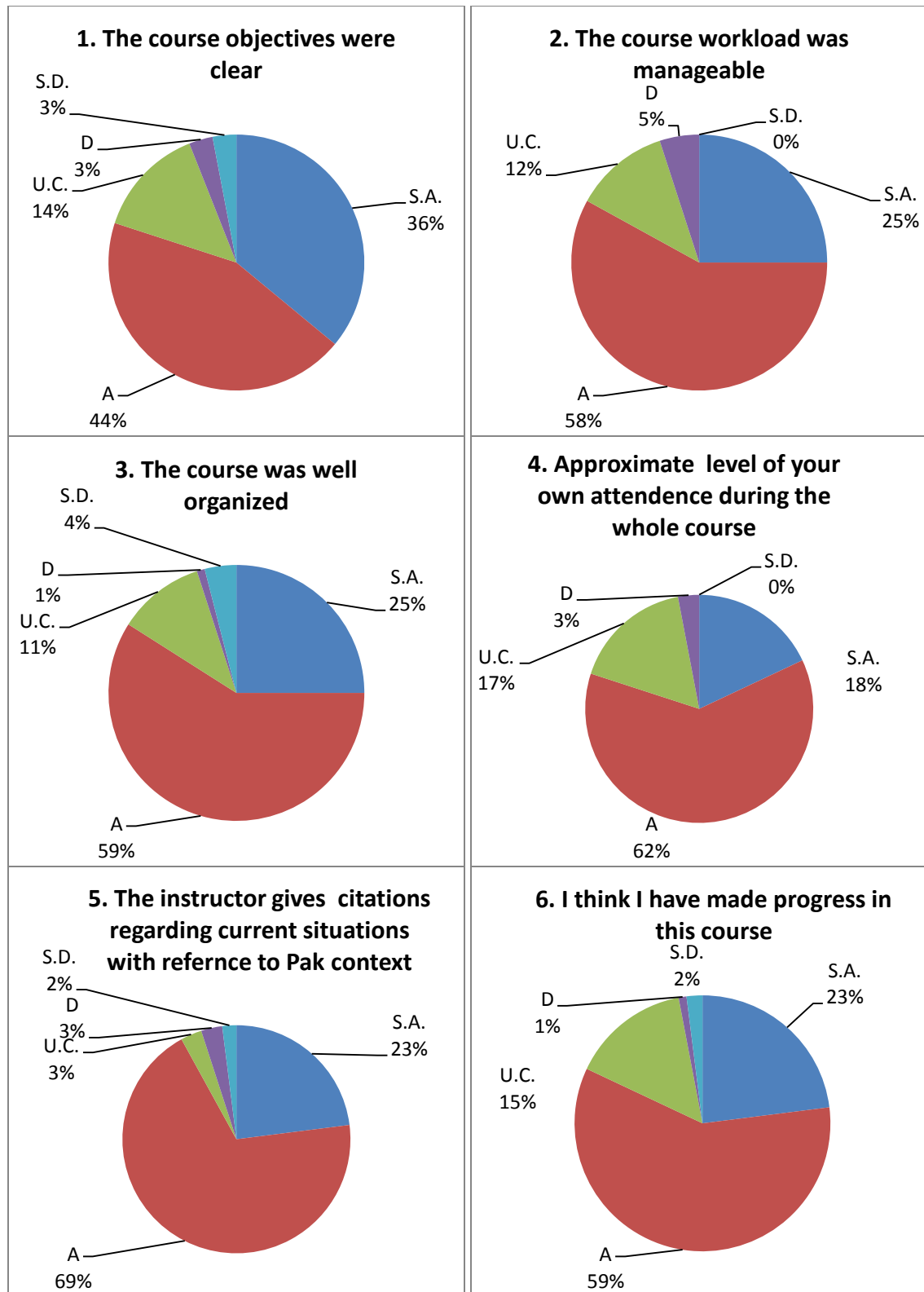
ii. Course Evaluation

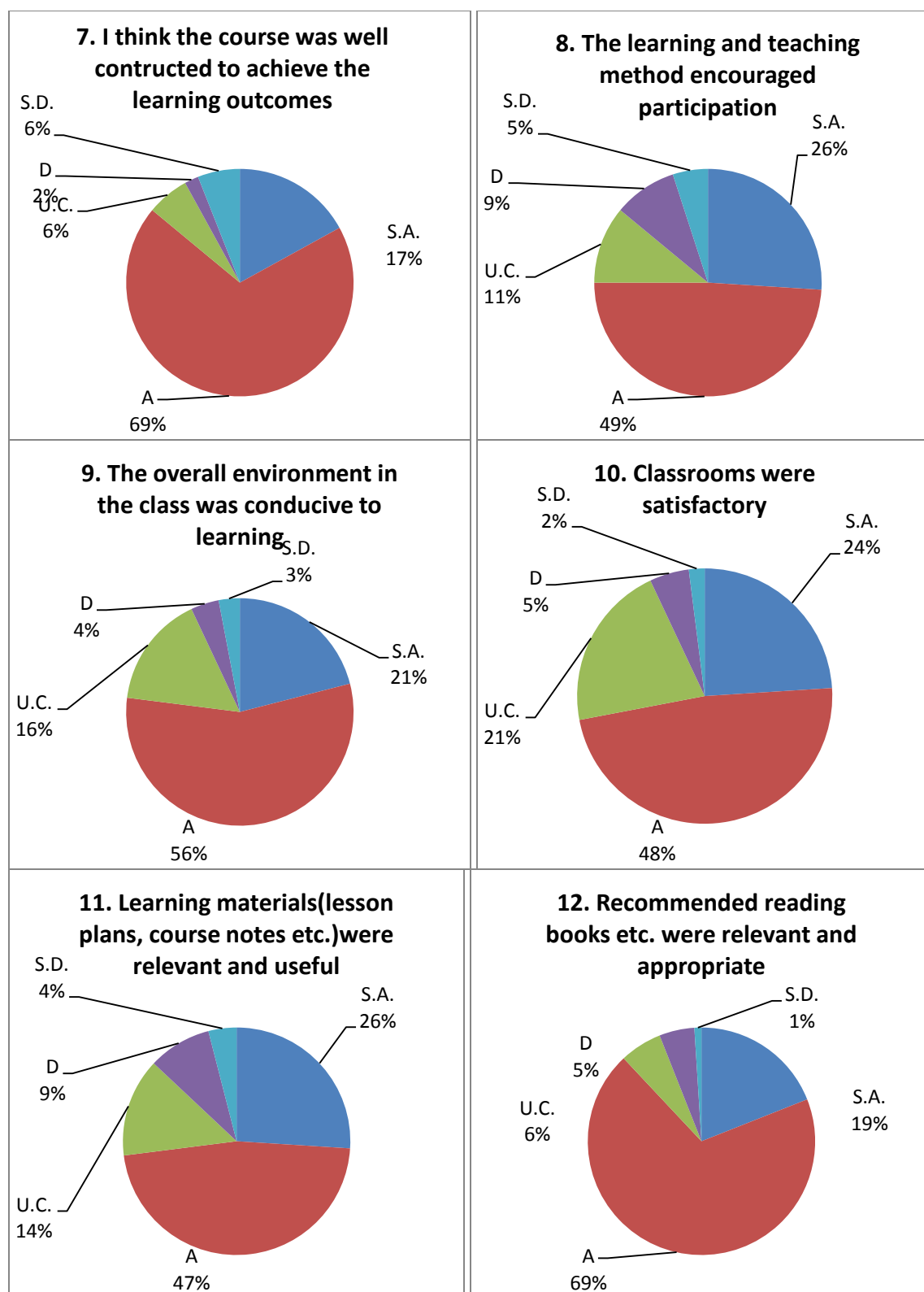
AGR-704	Crop environment	3(2-2)	Mr. Irfan Aziz
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Data were collected from 88 students. Comparative graph of course evaluation showed, that the course (AGR-704) taught by Mr. Irfan Aziz had an impact value of 4.5. The individual parameter showed that 36% the students strongly agreed, 44% agreed, 14% uncertain, 3% disagreed and 3% strongly disagreed that the course objectives were clear. Data regarding other parameters showed that major proportion of the students agree the course was well structured to achieve the learning outcomes (there was a good balance of lectures, tutorials, practical etc.). Similarly, they agreed that the learning and teaching methods encouraged participation, the overall environment in the class was conducive to learning, and classrooms were satisfactory, learning materials (Lesson Plans, Course Notes etc.) were relevant and useful, recommended reading books etc. were relevant and appropriate, the provision of learning resources in the library was adequate and the course stimulated their interest and thought on the subject area, the pace of the Course was appropriate, ideas and concepts were presented clearly, the method of assessment were reasonable, the material was well organized and presented, the instructor was responsive to student needs and problems, instructor was regular throughout the course and the material in the tutorials was useful.

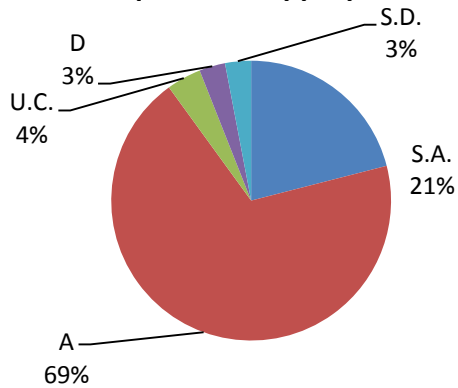
Comments / Suggestions

- The paper should comprise of both the subjective and objective part.
- There was lack of practical demonstrations in the practicals.
- Course could be improved by more pictures, slides and models about diseases.

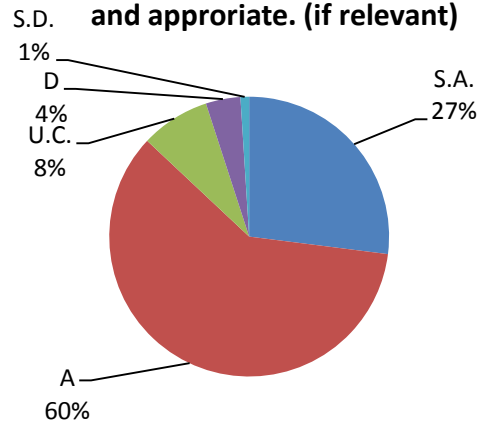




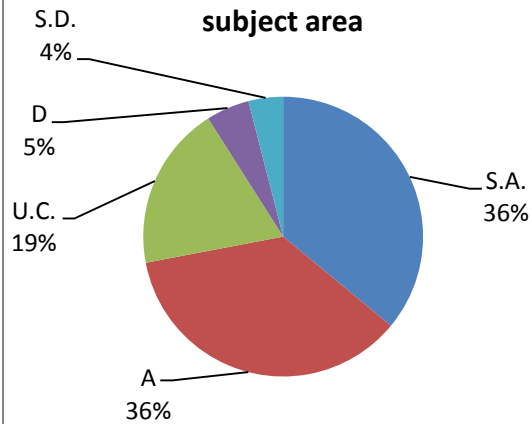
13. The provision of learning resources in the library was adequate and appropriate



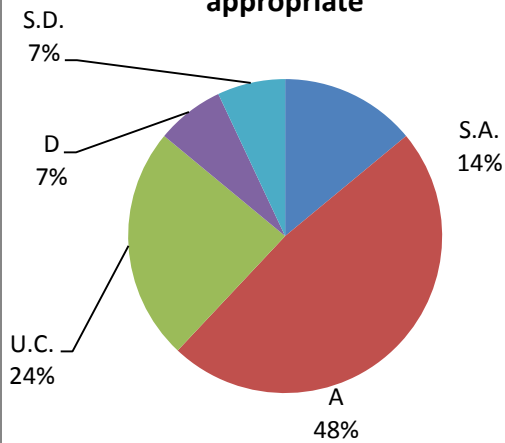
14. The provision of learning resources on the web adequate and appropriate. (if relevant)



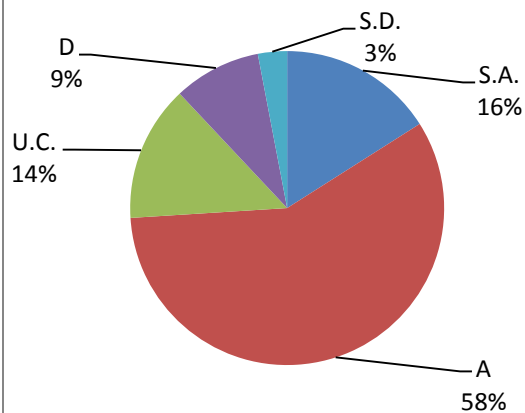
15. The course stimulated by interest and thought on the subject area



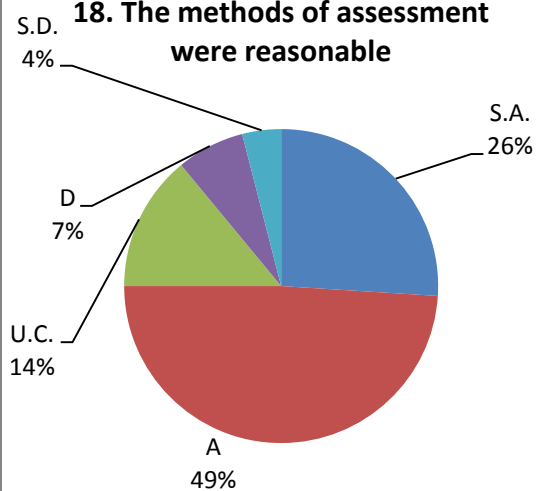
16. The pace of the course was appropriate

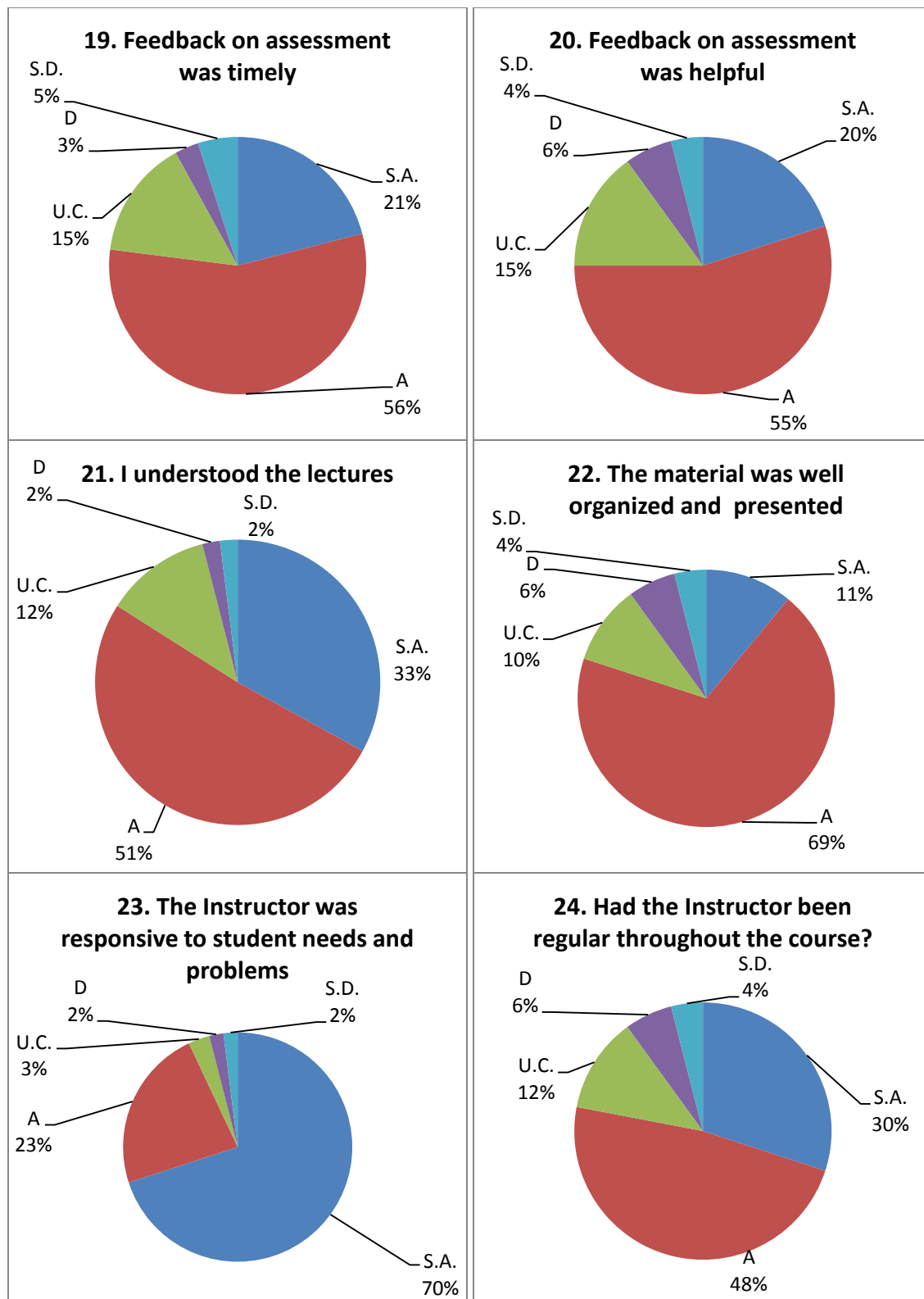


17. Ideas and concepts were presented clearly

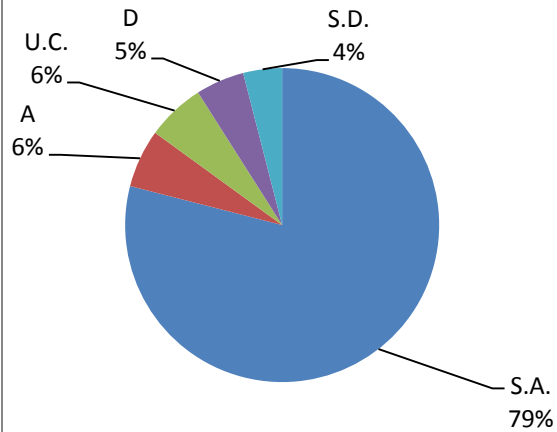


18. The methods of assessment were reasonable

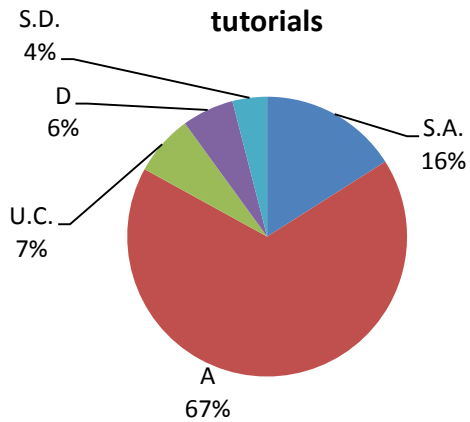




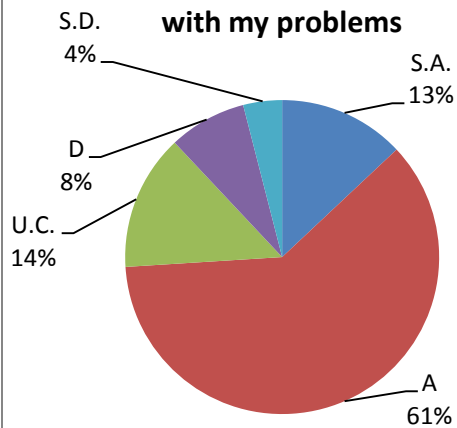
25. The material in the tutorials was useful



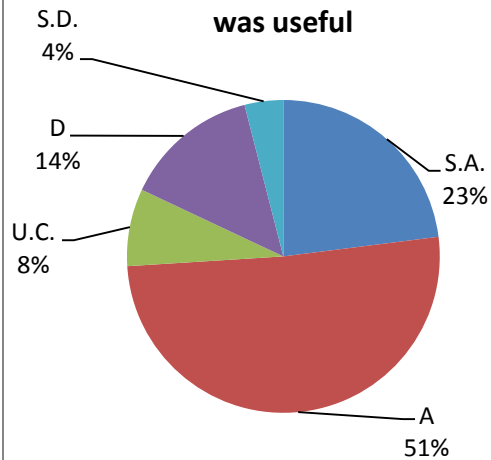
26. I was happy with the amount of work needed for tutorials



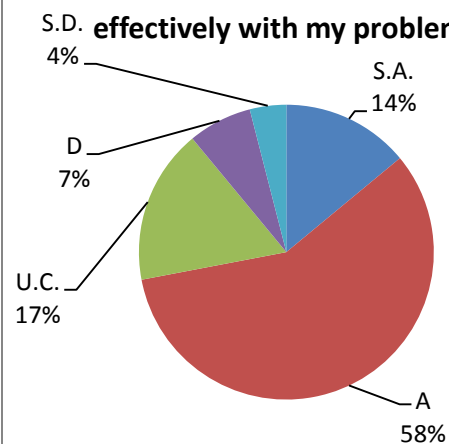
27. The tutor dealt effectively with my problems



28. The materials in practical was useful



29. The demonstrators dealt effectively with my problems



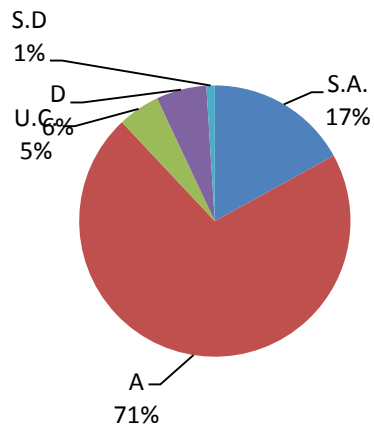
Dr. Muhammad Ansar**i. Teacher Evaluation**

Data were collected from 18 students. . Comparative graph of teachers' evaluation exhibited that Dr. Muhammad Ansar had a very good impact value of 4.56. The evaluation criteria parameters showed that the 17% of the students strongly agreed, 71% agreed, 5% uncertain, 6% disagreed, and 1% strongly disagreed that the instructor was prepared for each class. The data of other parameters inferred that major proportion of the students are agreed that instructor came with good preparation, instructor demonstrates knowledge of the subject, instructor had completed the whole course, the Instructor provided additional material apart from the textbook, the Instructor gave citations regarding current situations with reference to Pakistani context, the Instructor communicates the subject matter, the Instructor shows respect towards students and encourages class participation effectively, the Instructor maintained an environment that was conducive to learning, the Instructor arrived on time, the Instructor returned the graded scripts etc. in a reasonable amount of time, the Instructor was available during the specified office hours after class for consultations, the Subject matter presented in the course has increased their knowledge of the subject, the syllabus clearly states course objectives requirements, procedures and grading criteria.

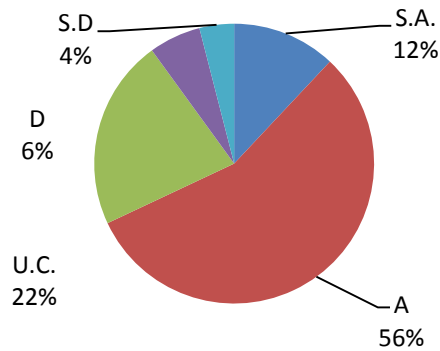
Comments/Suggestions

7. The teacher encourages the participation of the students, which makes the class environment conducive to learning.
8. Teacher was always helping hand.
9. The pace of the lecture was in accordance with the teaching schedule.

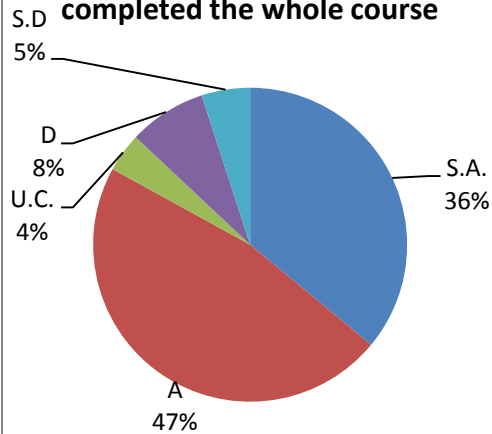
1. The instructor is prepared for each class



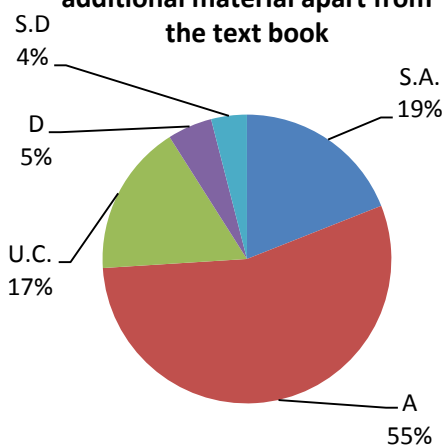
2. The instructor demonstrate knowledge of the subject



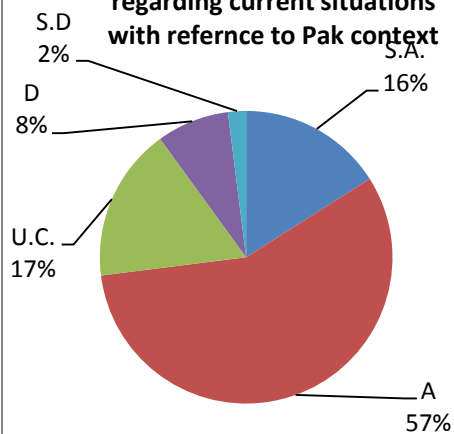
3. The instructor has completed the whole course



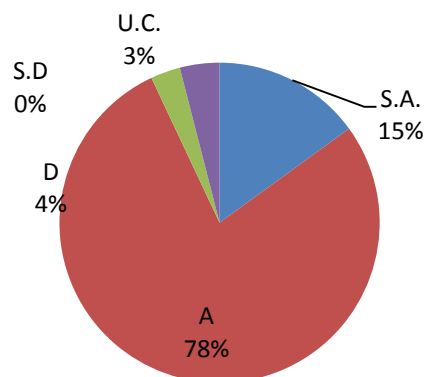
4. The instructor provides additional material apart from the text book

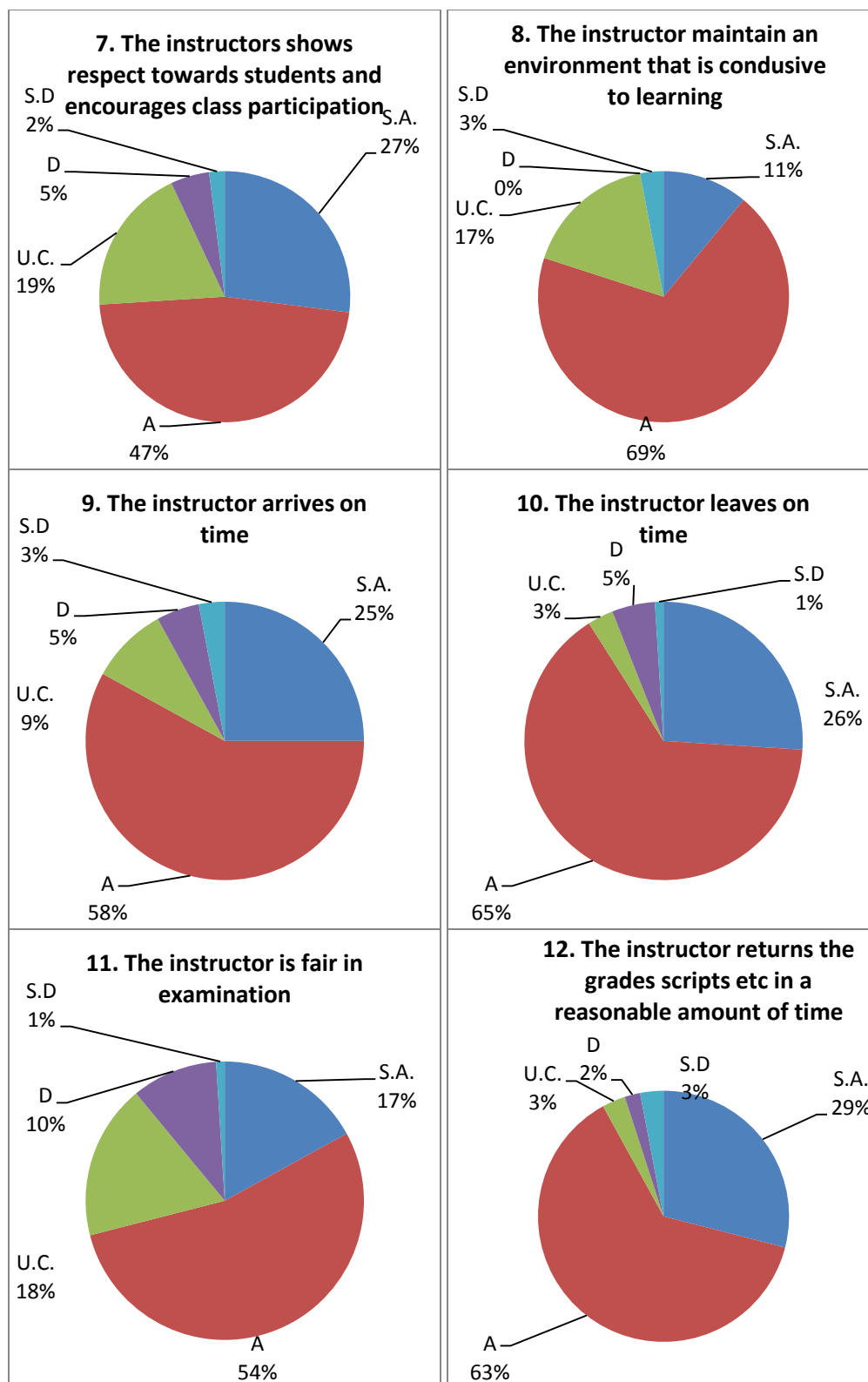


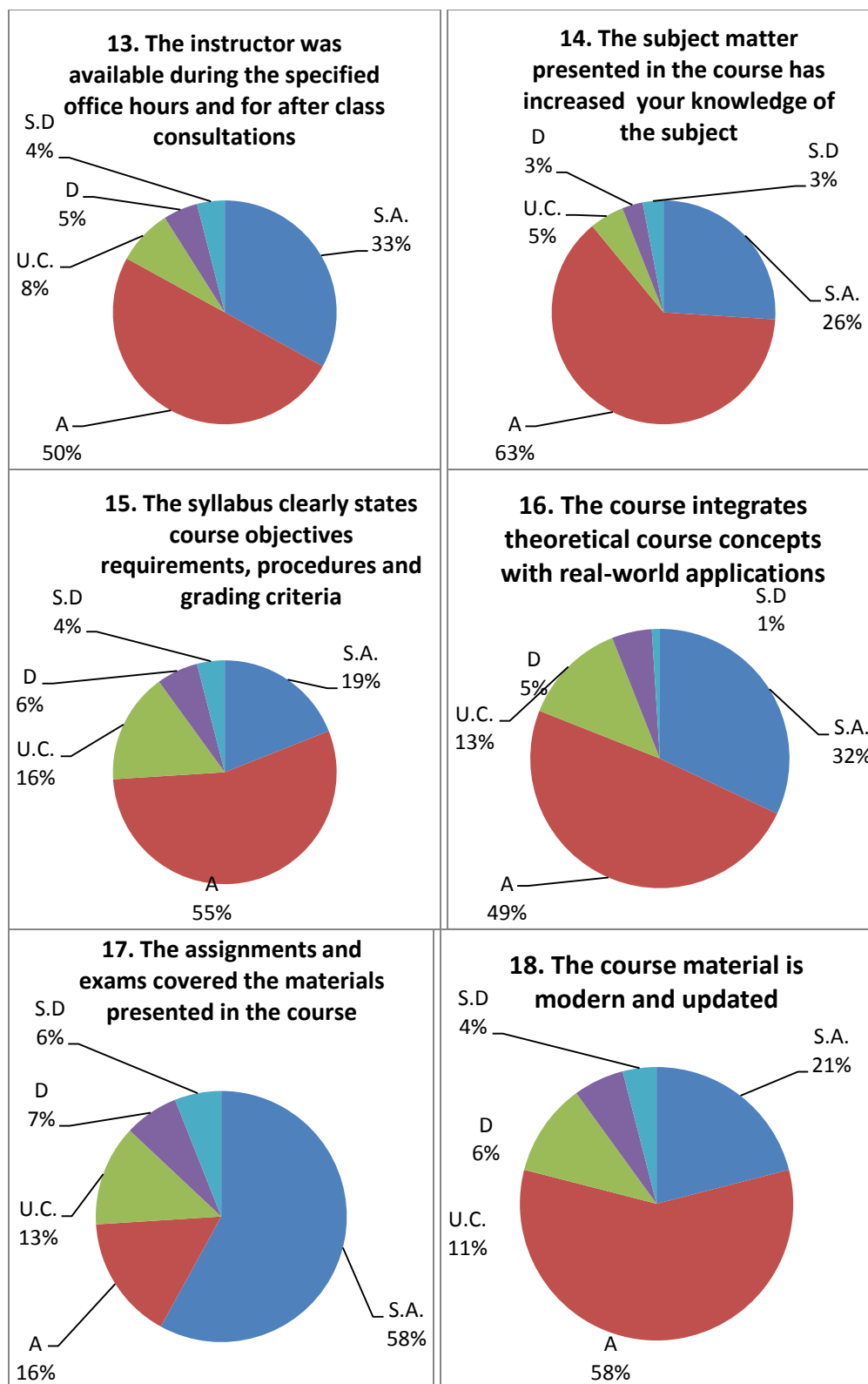
5. The instructor gives citations regarding current situations with reference to Pak context



6. The instructor communicates the subject matter effectively







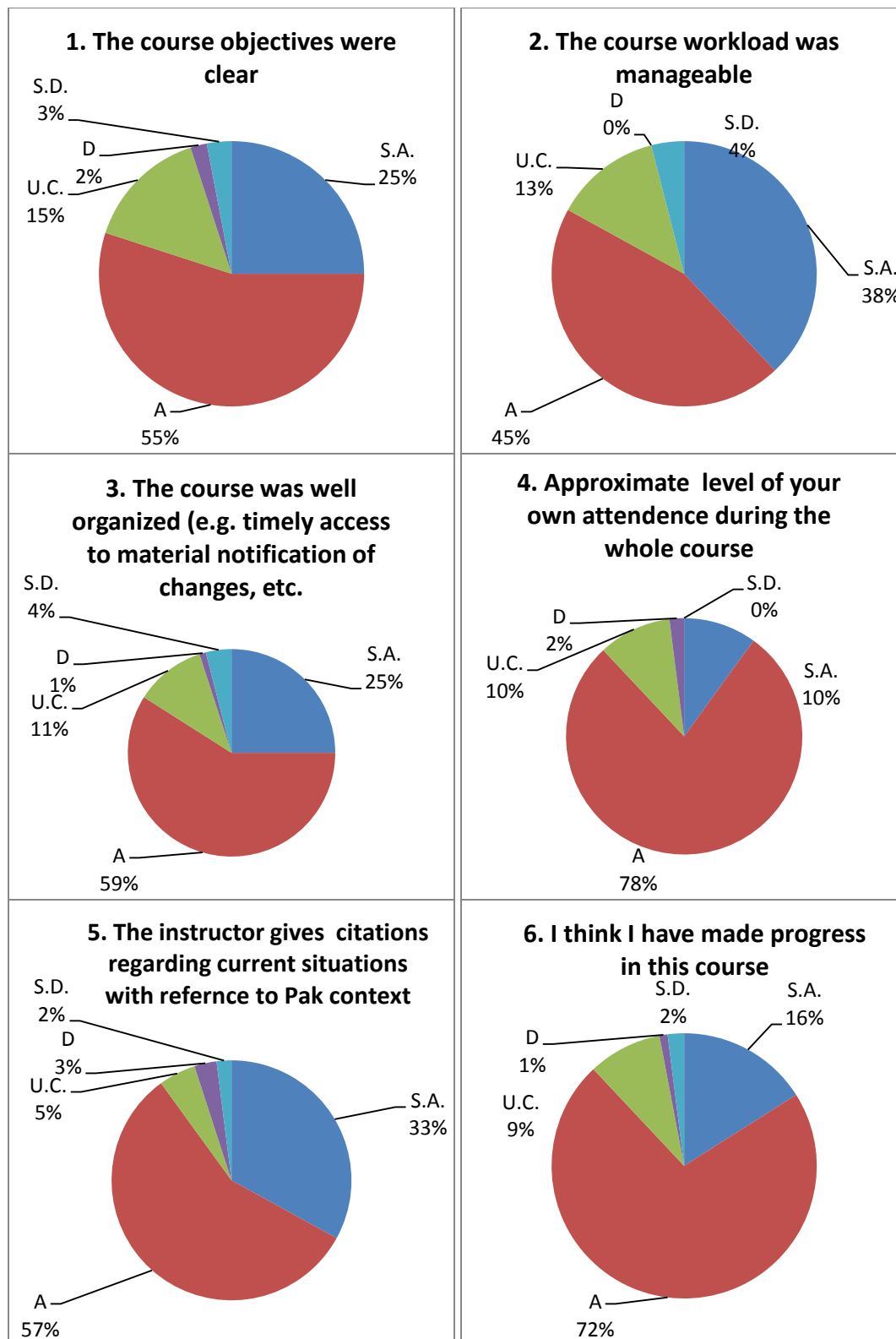
ii. Course Evaluation

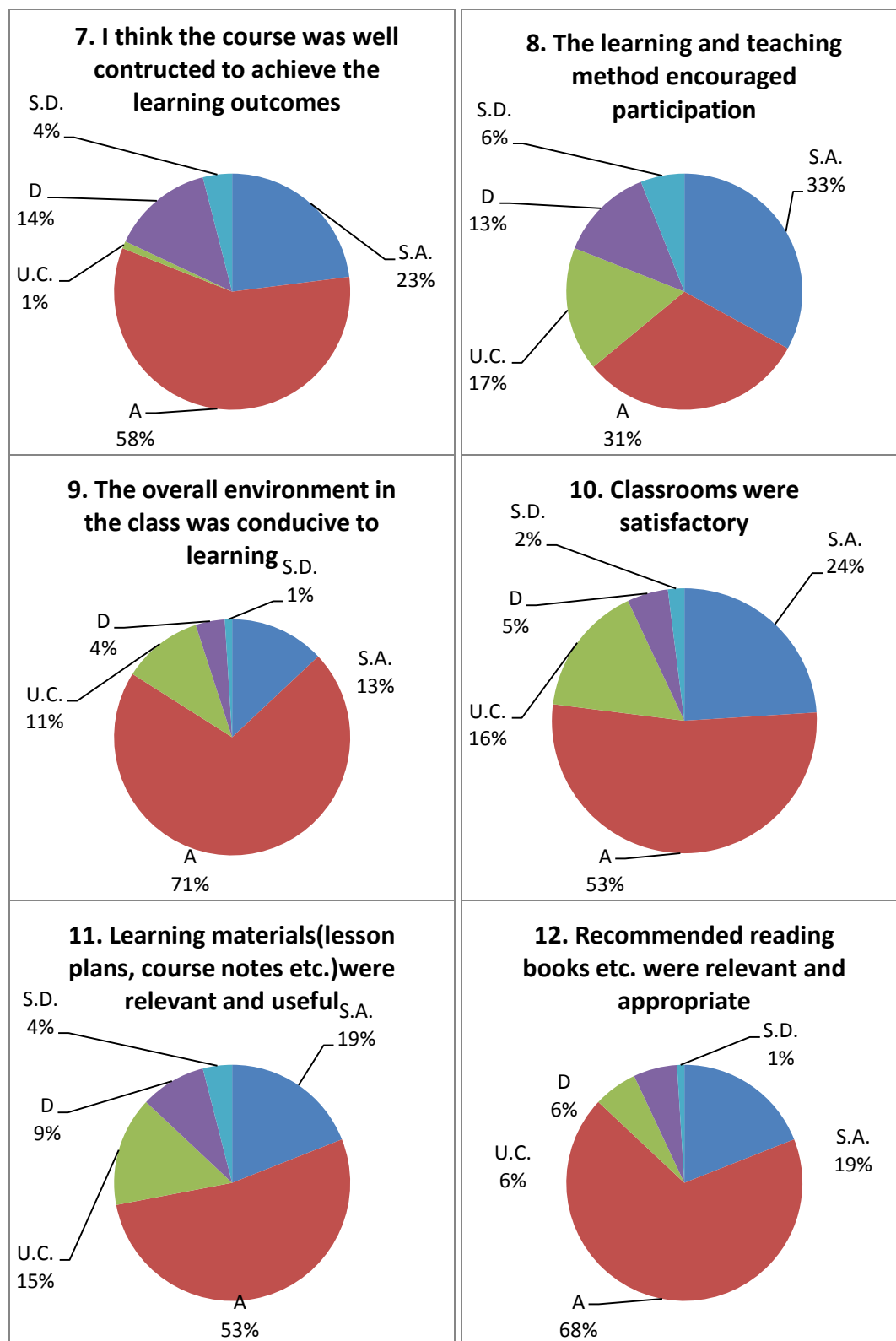
AGR-706	Weed Management	4(3-2)	Dr. Muhammad Ansar
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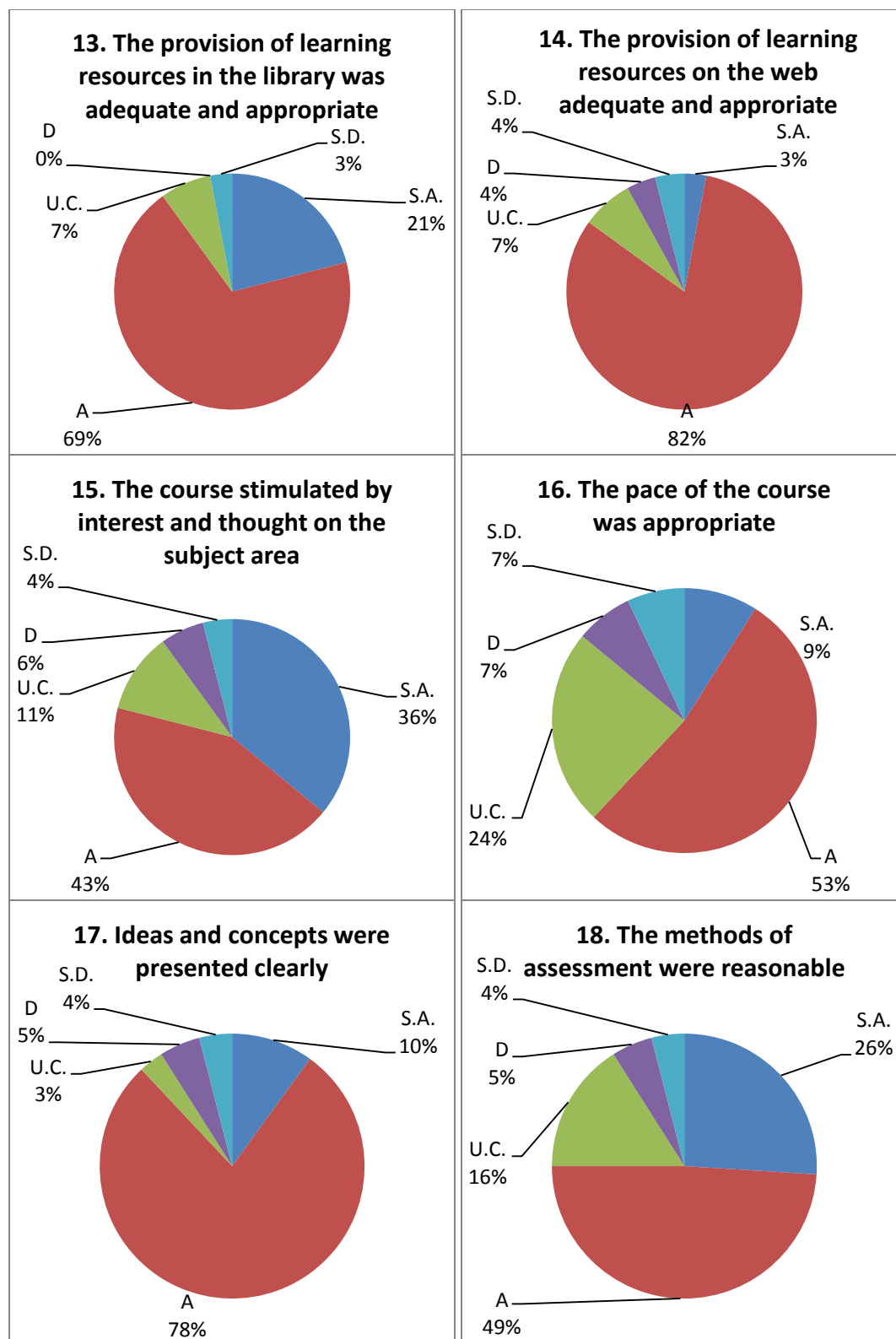
Data were collected from 88 students. Comparative graph of course evaluation showed, that the course (AGR-706) taught by Dr. Muhammad Ansar had an impact value of 4.6. The individual parameter showed that 25% the students strongly agreed, 55% agreed, 15% uncertain, 2% disagreed and 3% strongly disagreed that the course objectives were clear. Data regarding other parameters showed that major proportion of the students agreed about the course objectives were clear, the course workload was manageable, well organized (e.g. timely access to materials, notification of changes, etc, the approximate level of student's attendance during the whole course was higher; students participated actively in the course and have made progress in this course, the course was well structured to achieve the learning outcomes (there was a good balance of lectures, tutorials, practical etc, the learning and teaching methods encouraged participation, the overall environment in the class was conducive to learning, and classrooms were satisfactory, learning materials (Lesson Plans, Course Notes etc.) were relevant and useful, recommended reading books etc. were relevant and appropriate.

Comments / Suggestions

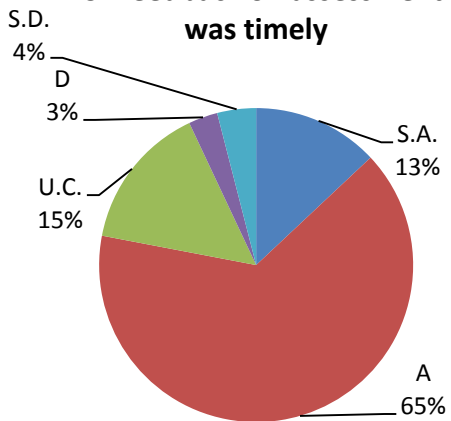
- Learning atmosphere in class was not reasonable.
- The objectives of the course should be very clear.
- Appropriate information about course was not offered in the books available in library.
- Practically, lab requirements were not satisfactory.



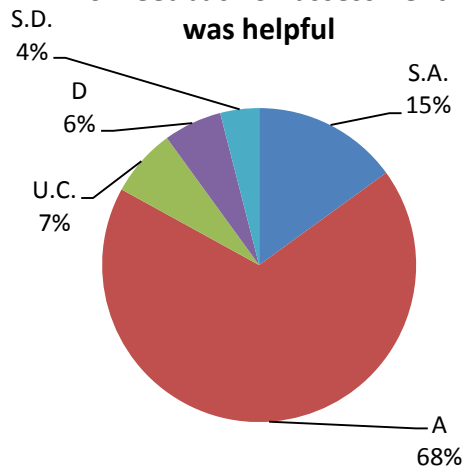




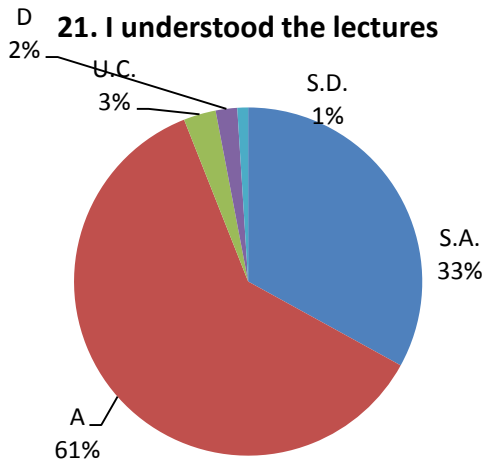
19. Feedback on assessment was timely



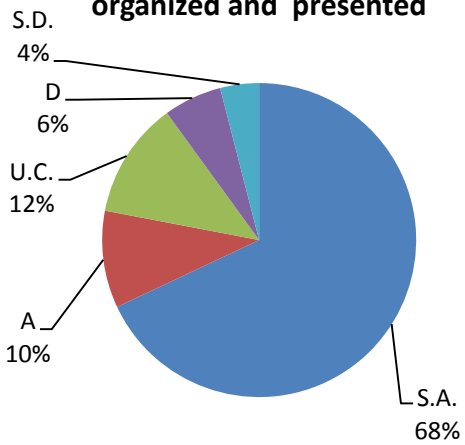
20. Feedback on assessment was helpful



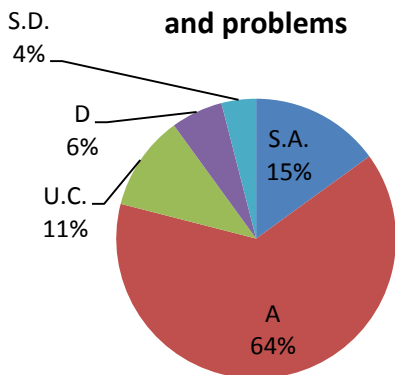
21. I understood the lectures



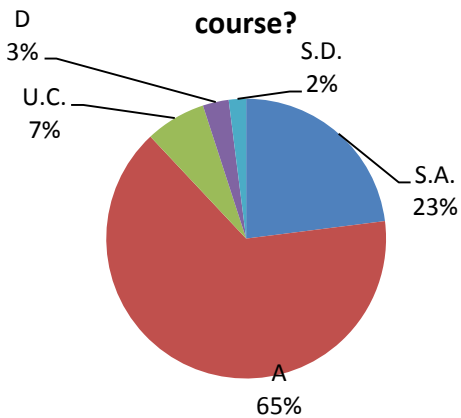
22. The material was well organized and presented

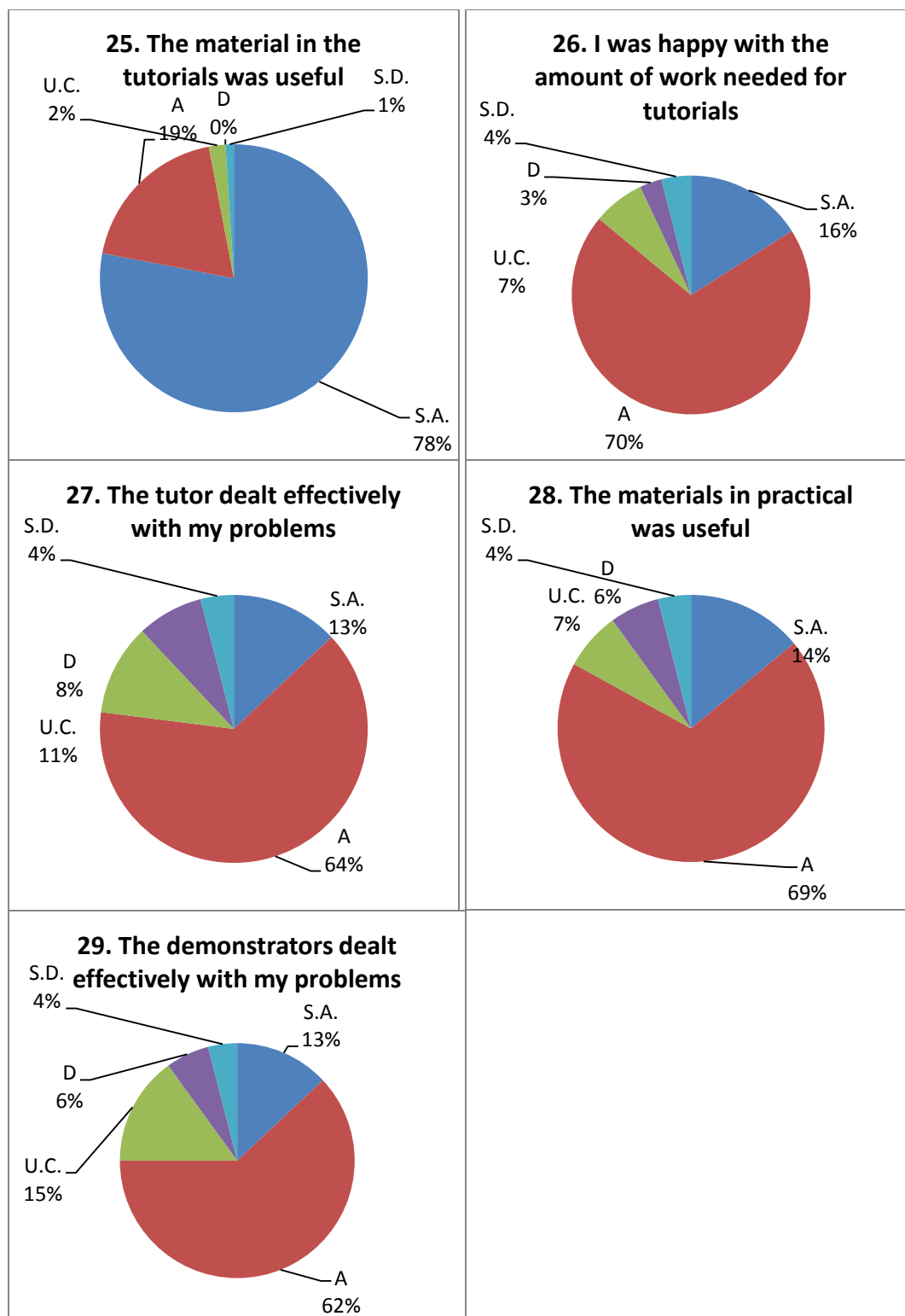


23. The Instructor was responsive to student needs and problems



24. Had the Instructor been regular throughout the course?





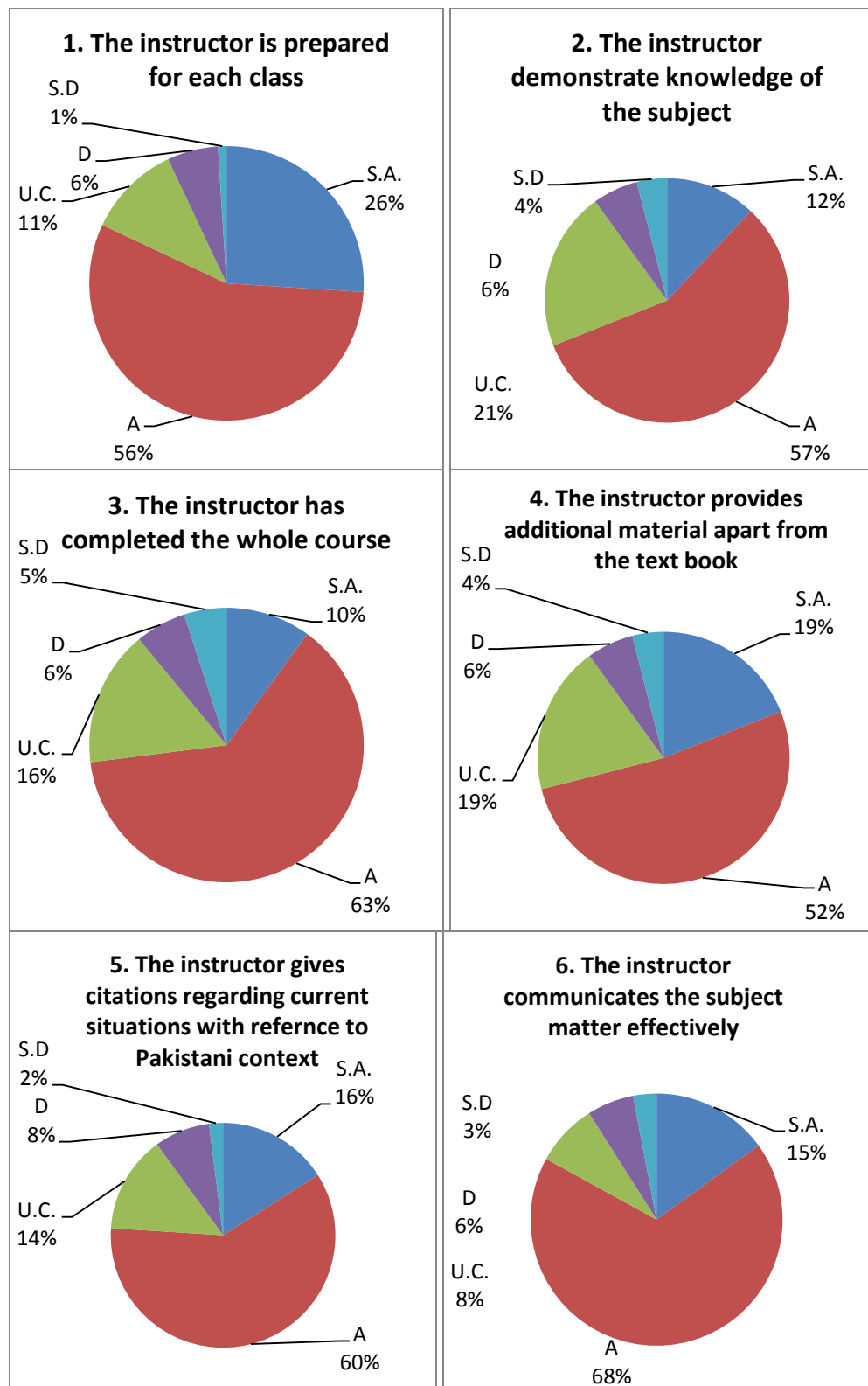
Dr. Zammurad Iqbal Ahmed

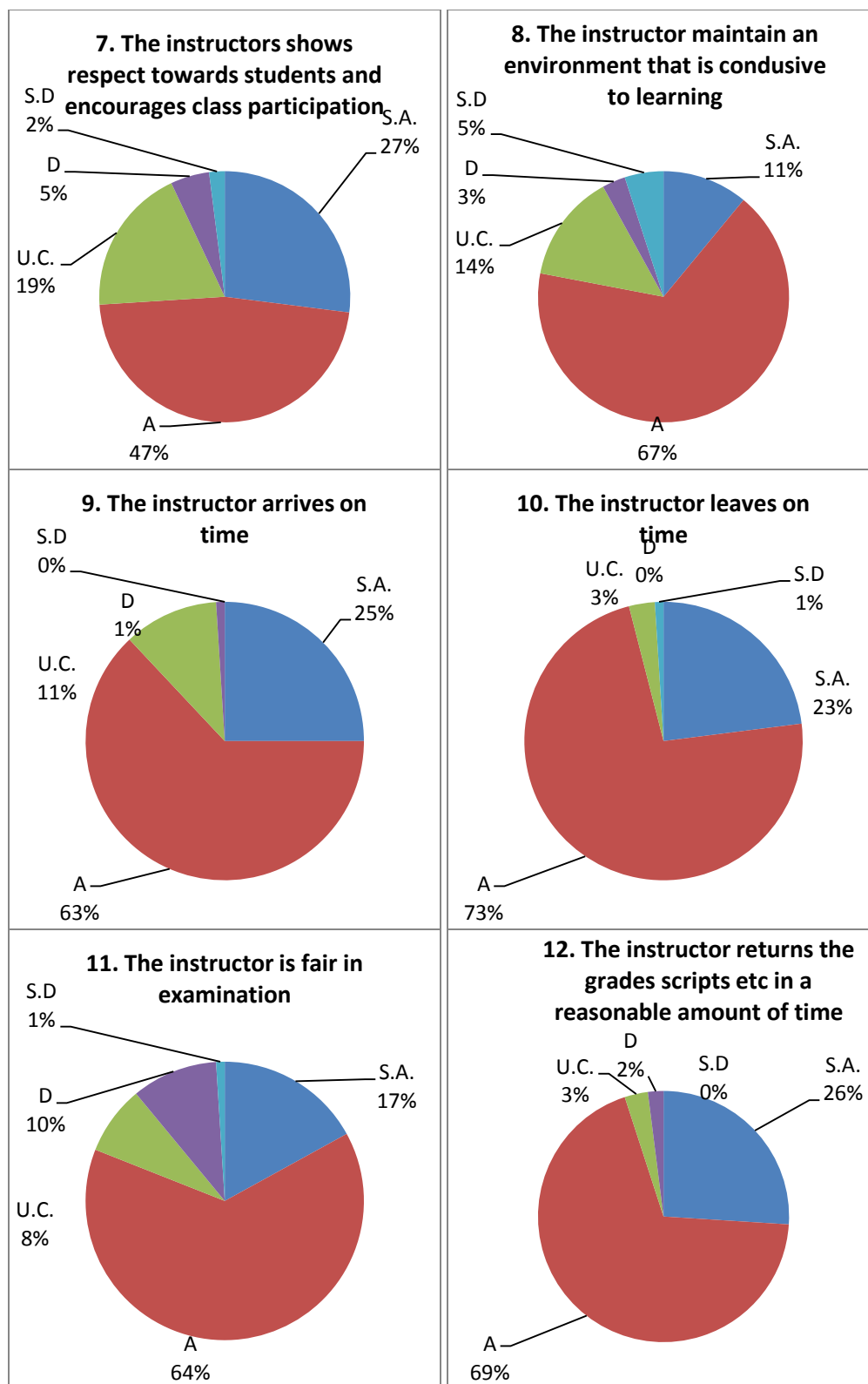
i. Teacher Evaluation

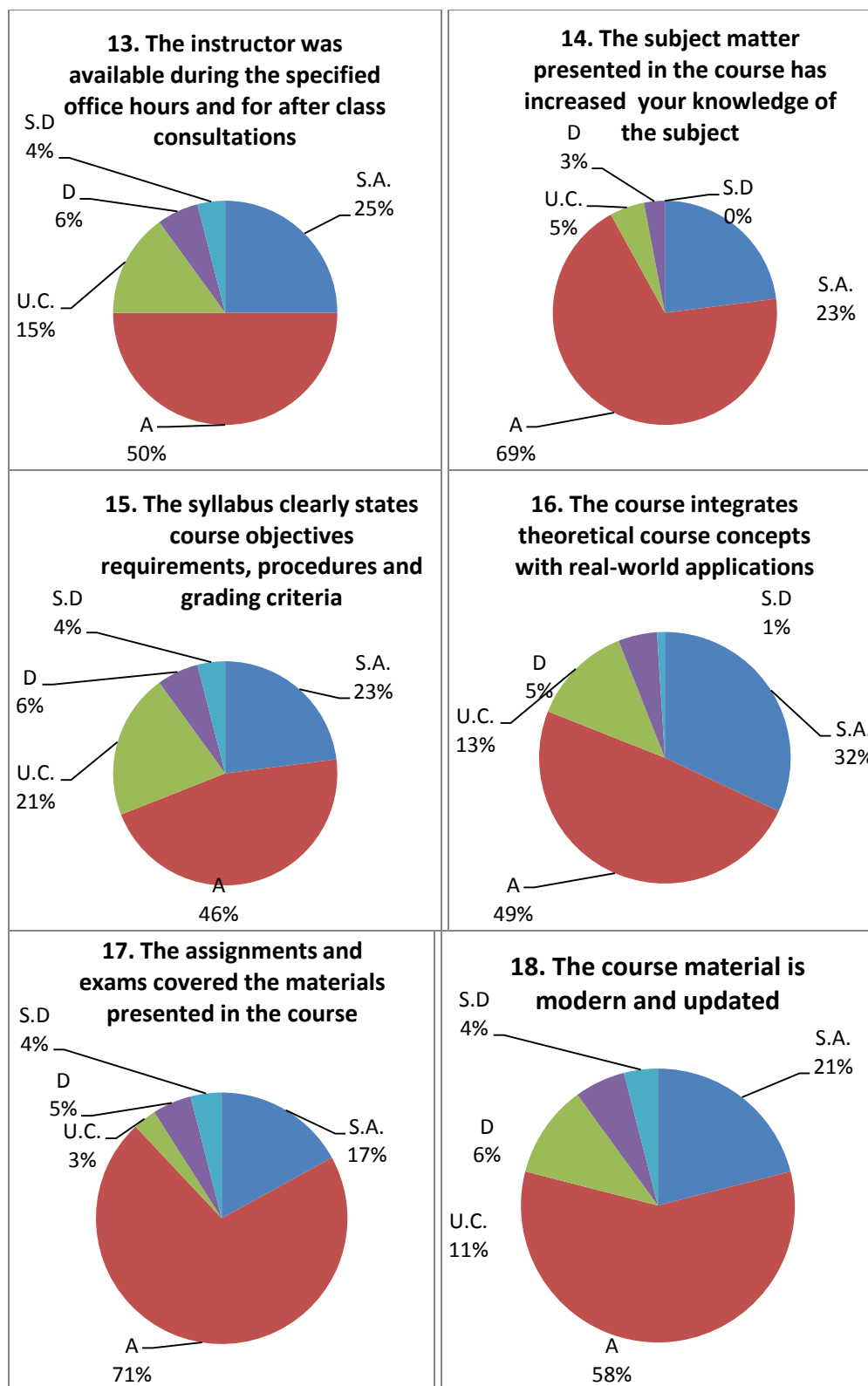
Data were collected from 88 students. . Comparative graph of teachers' evaluation exhibited that Dr. Zammurad Iqbal Ahmed had a very good impact value of 4.63. The evaluation criteria parameters showed that the 26% of the students strongly agreed, 56% agreed, 11% uncertain, 6% disagreed, and 1% strongly disagreed that the instructor was prepared for each class. The data of other parameters inferred that major proportion of the students are agreed that the teacher is fair in examination, the instructor came with good preparation, ,instructor demonstrates knowledge of the subject, instructor had completed the whole course, the Instructor provided additional material apart from the textbook, the Instructor gave citations regarding current situations with reference to Pakistani context, the Instructor communicates the subject matter, the Instructor shows respect towards students and encourages class participation effectively, the Instructor maintained an environment that was conducive to learning, the Instructor arrived on time, the Instructor returned the graded scripts etc. in a reasonable amount of time, the Instructor was available during the specified office hours after class for consultations, the Subject matter presented in the course has increased their knowledge of the subject, the syllabus clearly states course objectives requirements, procedures and grading criteria, the course integrates theoretical course concepts with real-world applications, and the assignments and exams covered the materials presented in the course, the course material is modern and updated.

Comments/Suggestions:

10. The teacher always relates the course topics with his practical experiences under the local environmental conditions for proper understanding of the students.
11. The teacher's attitude was amiable during and after his lectures with the students.
12. The pace of course covering was commendable and understanding of the theme of the course was also appreciable.







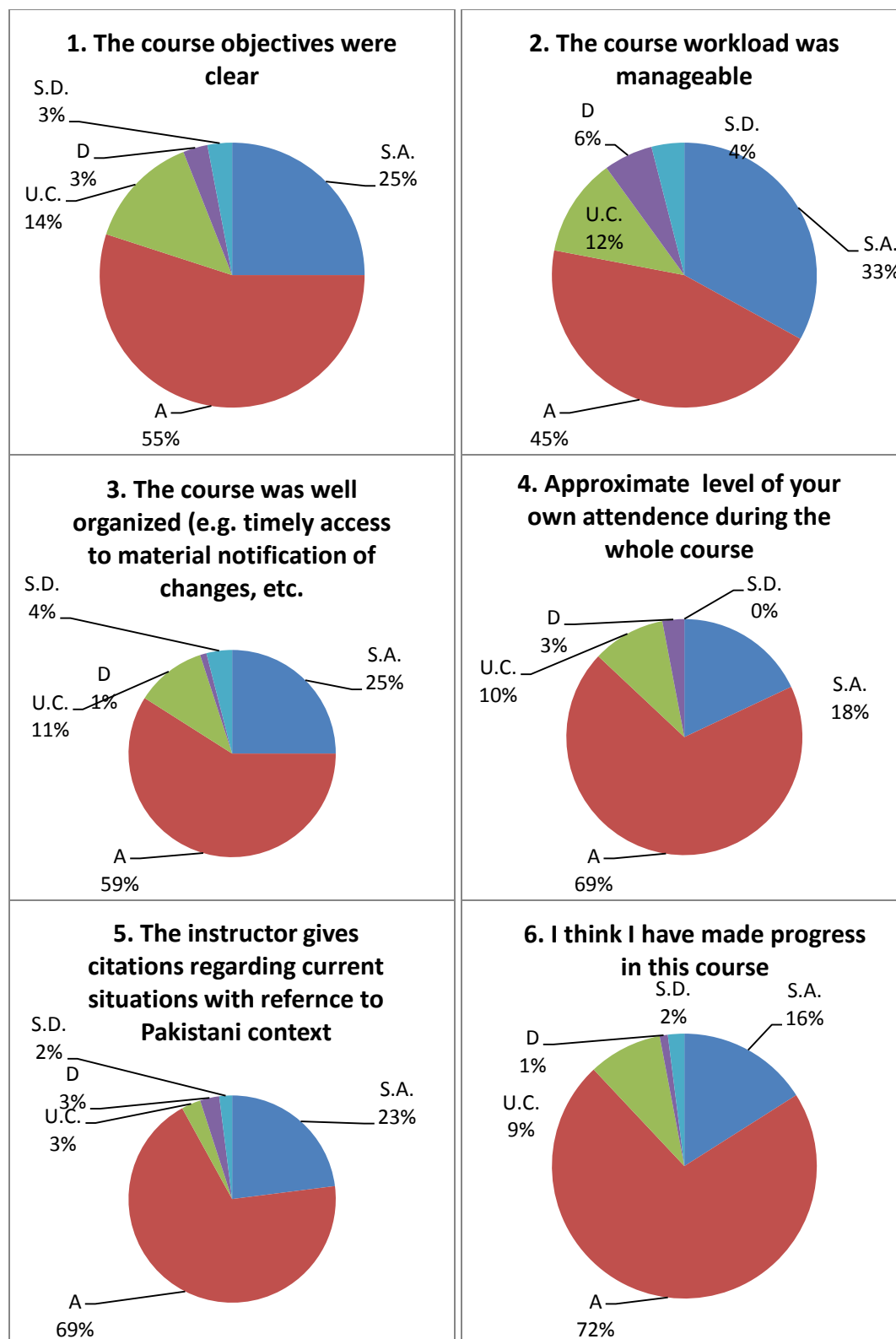
ii. Course Evaluation

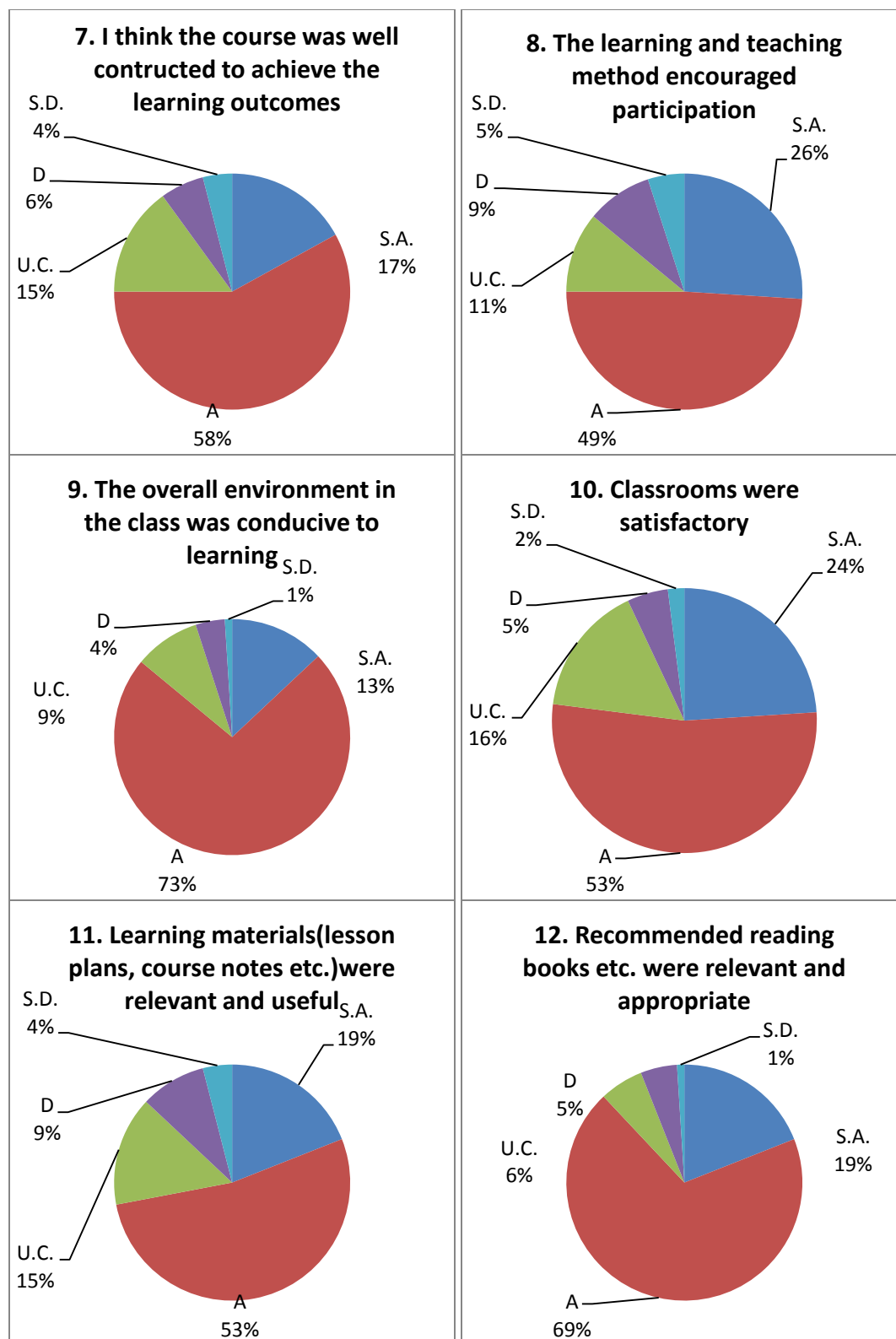
AGR-707	Field crop experimentation	4(3-2)	Dr. Zammurad Iqbal Ahmed
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Data were collected from 88 students. Comparative graph of course evaluation showed, that the course (AGR-707) taught by Dr. Zammurad Iqbal Ahmed had an impact value of 4.6. The individual parameter showed that 25% the students strongly agreed, 55% agreed, 14% uncertain, 3% disagreed and 3% strongly disagreed that the course objectives were clear. Data regarding other parameters showed that major proportion of the students agreed that the course workload was manageable, well organized, the approximate level of student's attendance during the whole course was higher; students participated actively in the course and have made progress in this course, the course was well structured to achieve the learning outcomes, the learning and teaching methods encouraged participation, the overall environment in the class was conducive to learning, and classrooms were satisfactory, learning materials (Lesson Plans, Course Notes etc.) were relevant and useful, recommended reading books etc. were relevant and appropriate. They described that the provision of learning resources in the library was adequate and the course stimulated their interest and thought on the subject area. According to most of the students, the pace of the Course was appropriate, ideas and concepts were presented clearly, the method of assessment were reasonable.

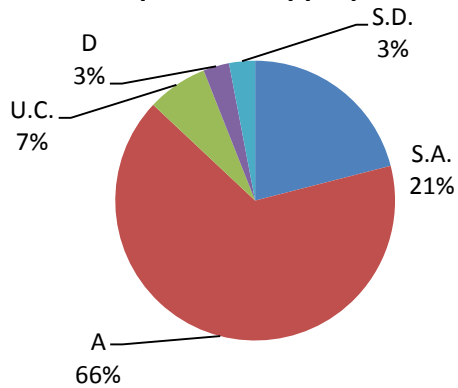
Comments / Suggestions

- More practicals will make the course better.
- Lab equipments were not ample.
- Projector and multimedia should be used to deliver lectures.
- There was lack of practical demonstrations in the practical part of the course.
- No doubt the course was enlightening and interesting.

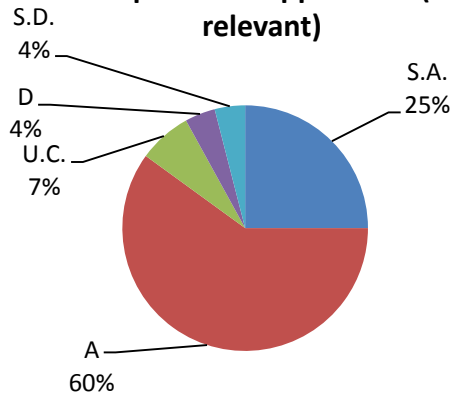




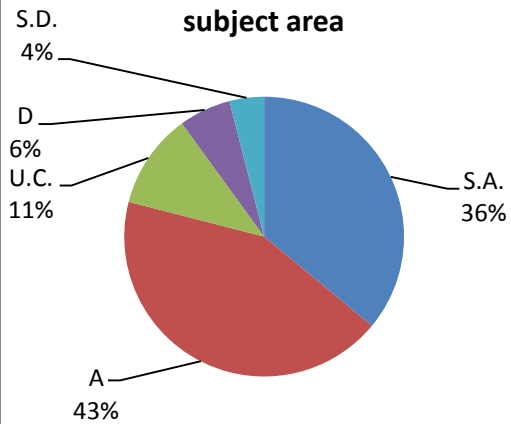
13. The provision of learning resources in the library was adequate and appropriate



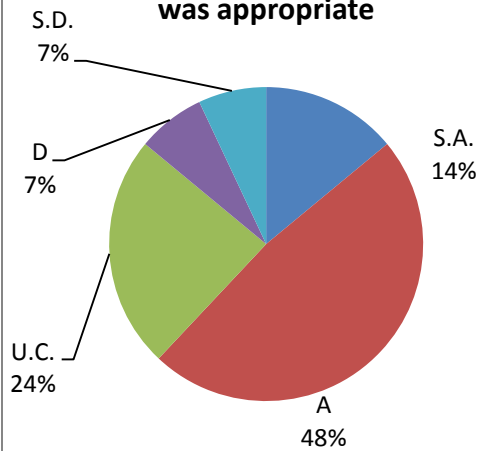
14. The provision of learning resources on the web adequate and appropriate. (if relevant)



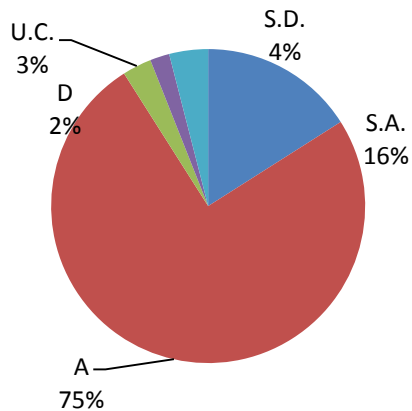
15. The course stimulated by interest and thought on the subject area



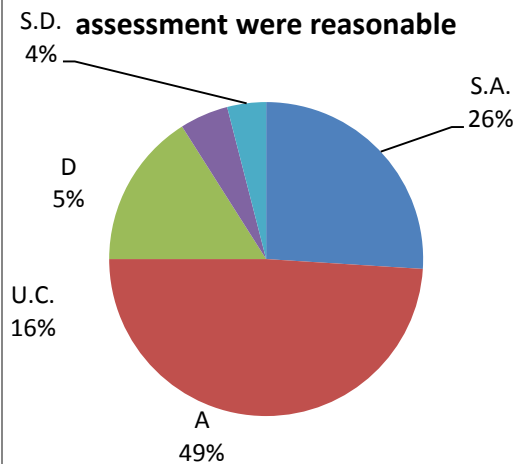
16. The pace of the course was appropriate

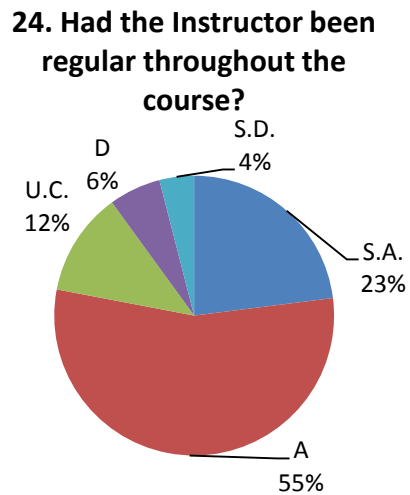
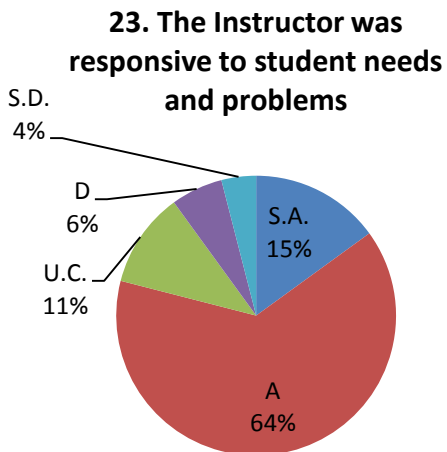
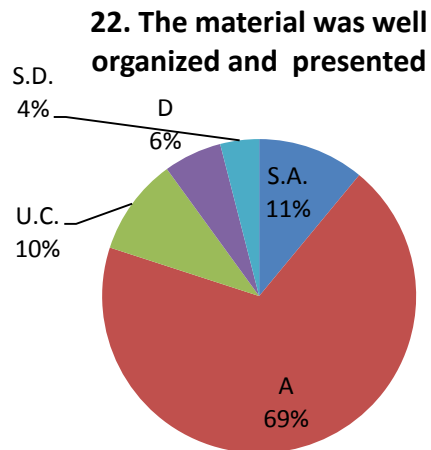
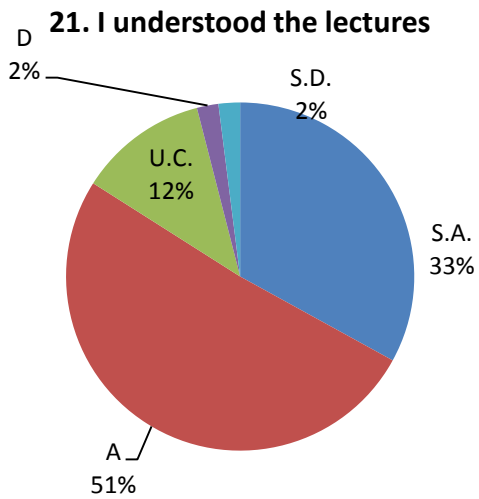
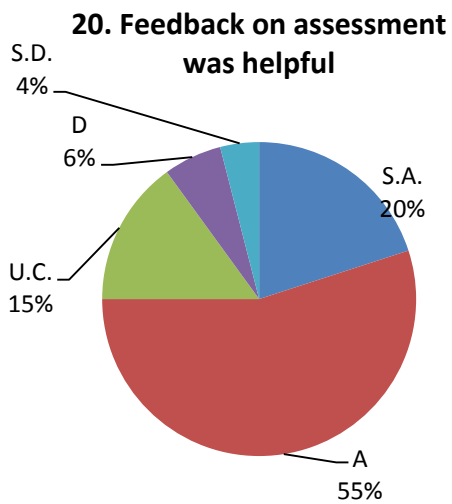
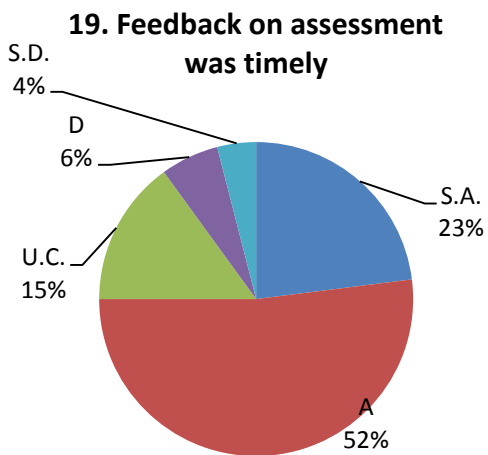


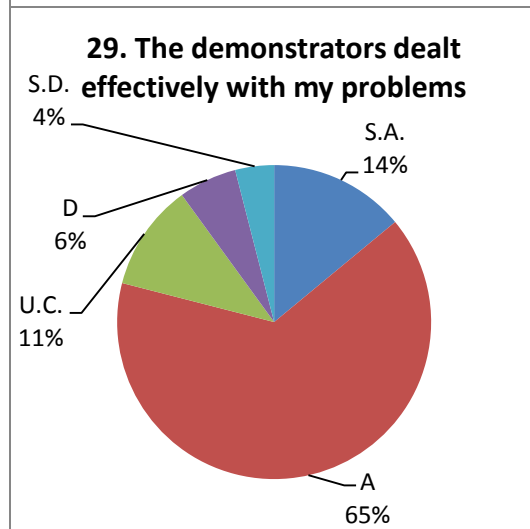
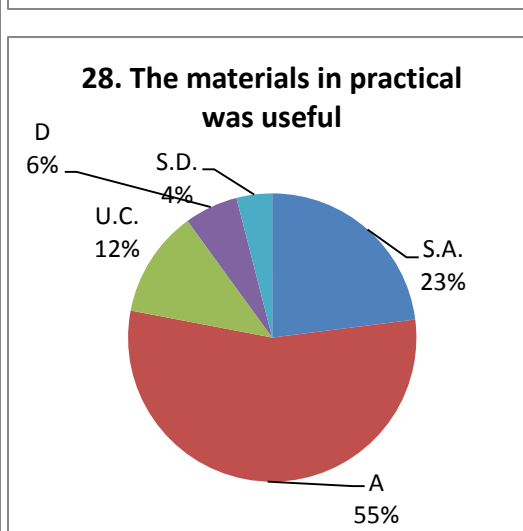
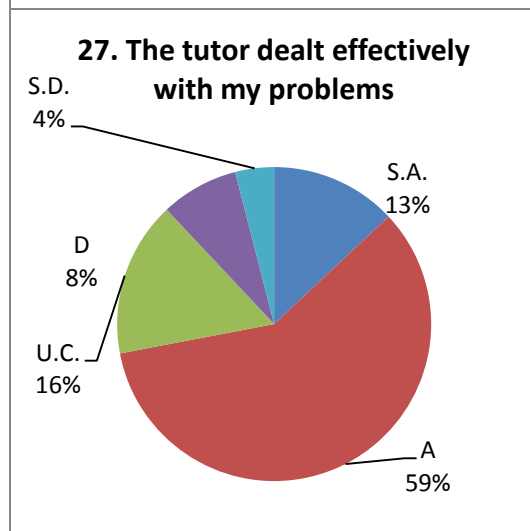
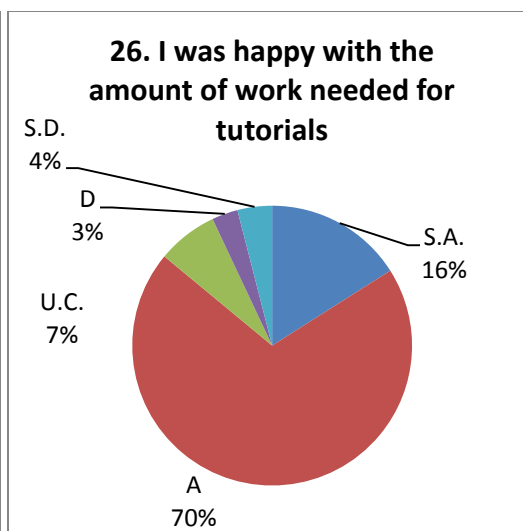
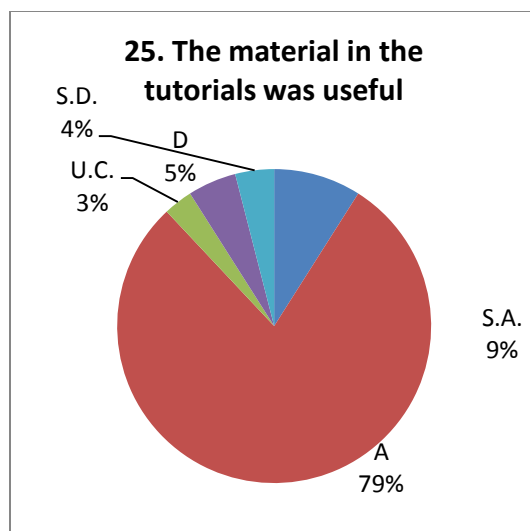
17. Ideas and concepts were presented clearly



18. The methods of assessment were reasonable







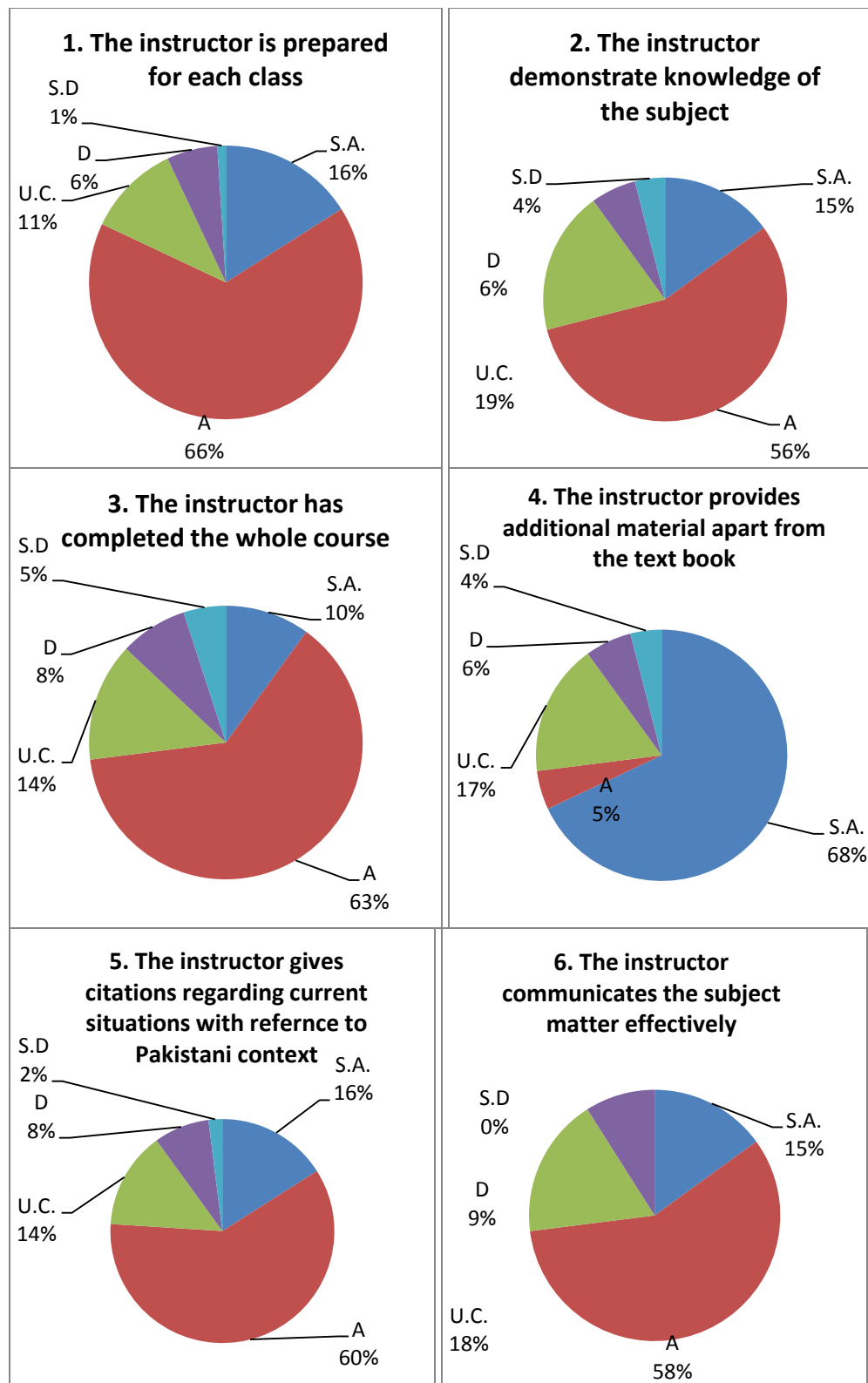
Dr. Ghulam Qadir

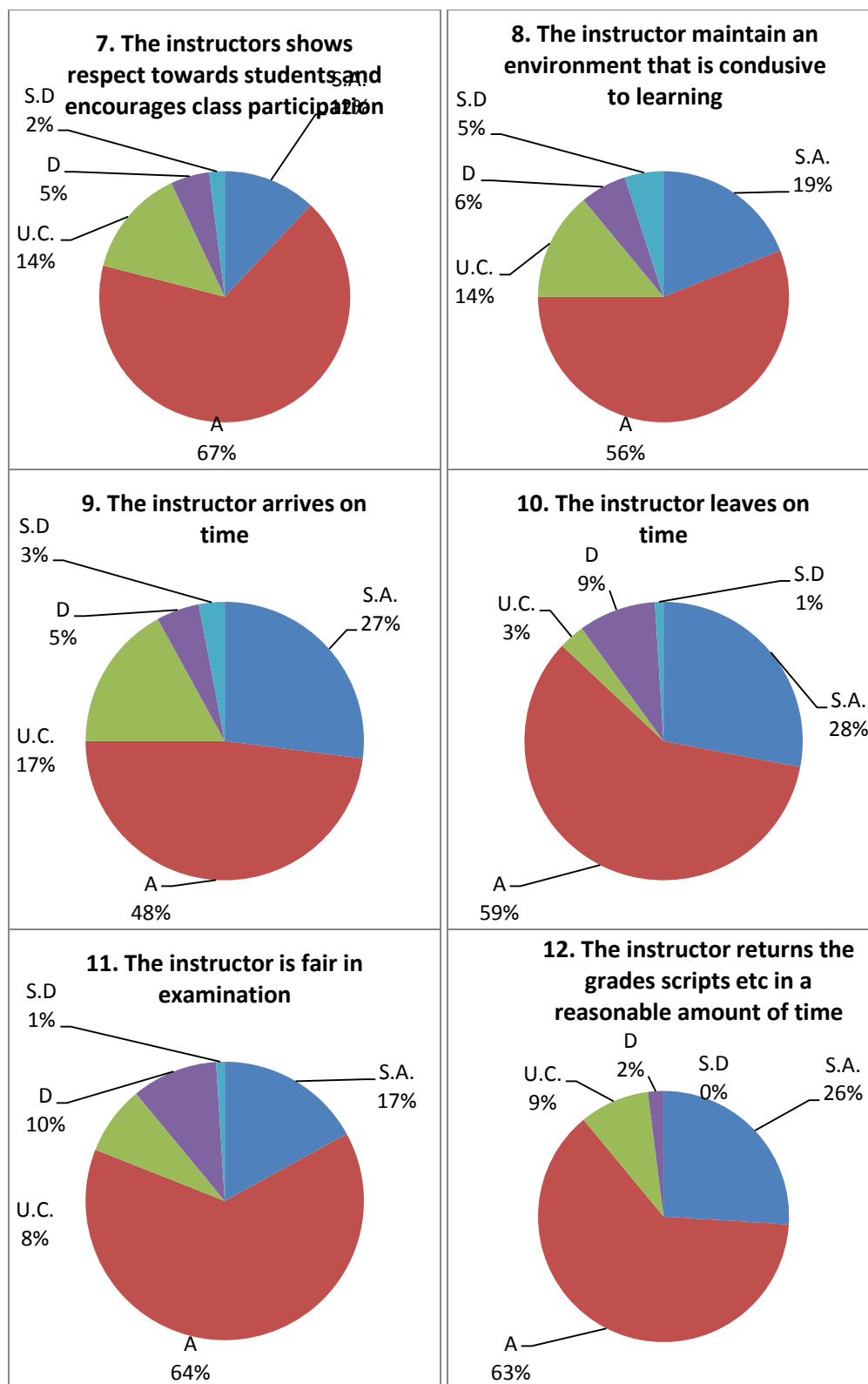
i. Teacher Evaluation

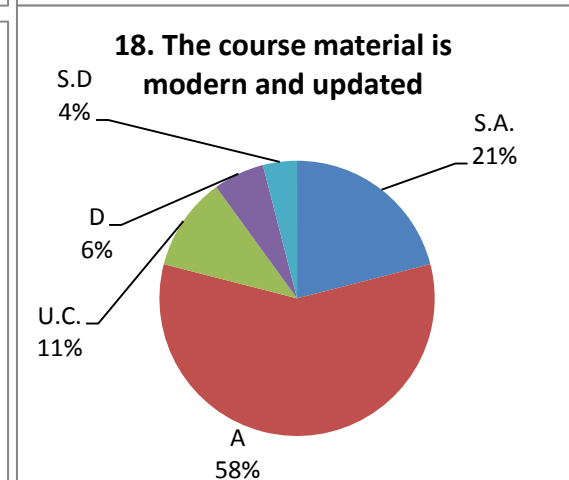
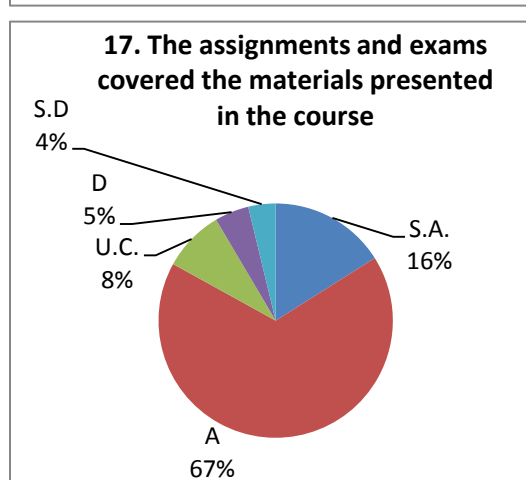
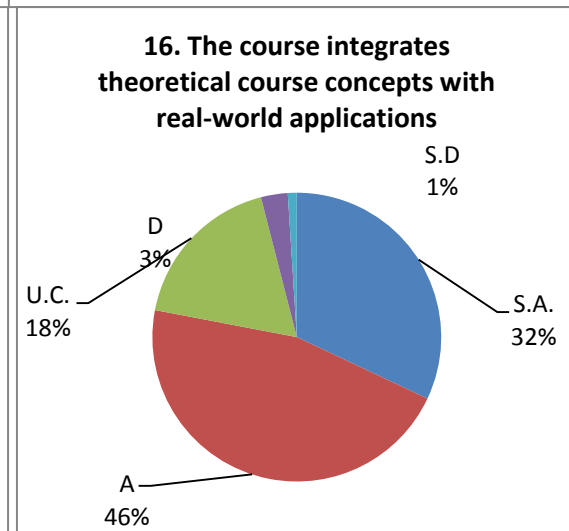
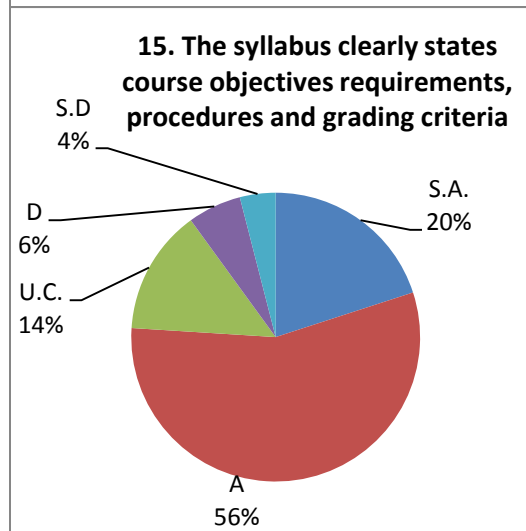
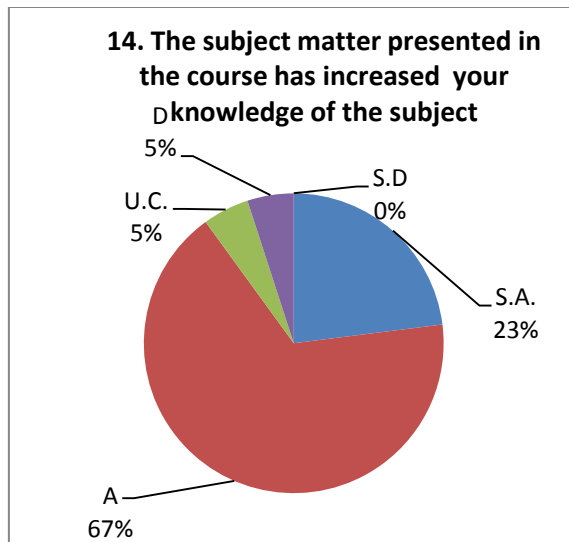
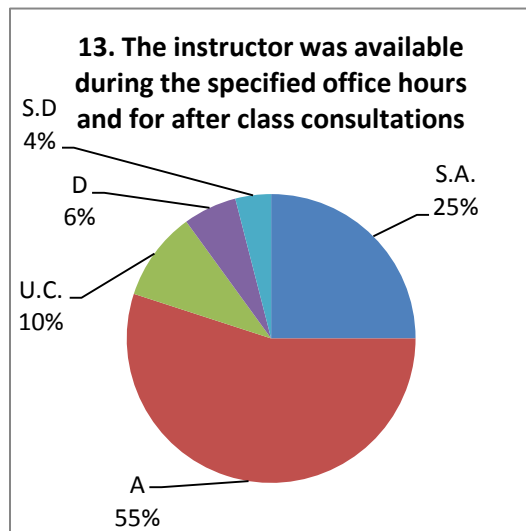
Data were collected from 18 students. . Comparative graph of teachers' evaluation exhibited that Dr. Ghulam Qadir had a very good impact value of 4.08. The evaluation criteria parameters showed that the 16 % of the students strongly agreed, 66% agreed, 11% uncertain, 6% disagreed, and 1% strongly disagreed that the instructor was prepared for each class. The data of other parameters inferred that major proportion of the students are agreed that the instructor demonstrates knowledge of the subject, instructor had completed the whole course, the Instructor provided additional material apart from the textbook, the Instructor gave citations regarding current situations with reference to Pakistani context, the Instructor communicates the subject matter, the Instructor shows respect towards students and encourages class participation effectively, the Instructor maintained an environment that was conducive to learning, the Instructor arrived on time, the Instructor returned the graded scripts etc. in a reasonable amount of time, the Instructor was available during the specified office hours after class for consultations, the Subject matter presented in the course has increased their knowledge of the subject, the syllabus clearly states course objectives requirements, procedures and grading criteria, the course integrates theoretical course concepts with real-world applications, and the assignments and exams covered the materials presented in the course, the course material is modern and updated.

Comments/Suggestions

1. Moderate and jolly teacher.
2. Teacher taught the course with special association to the surrounding environment of the country.
3. Punctuality can improve the learning process.







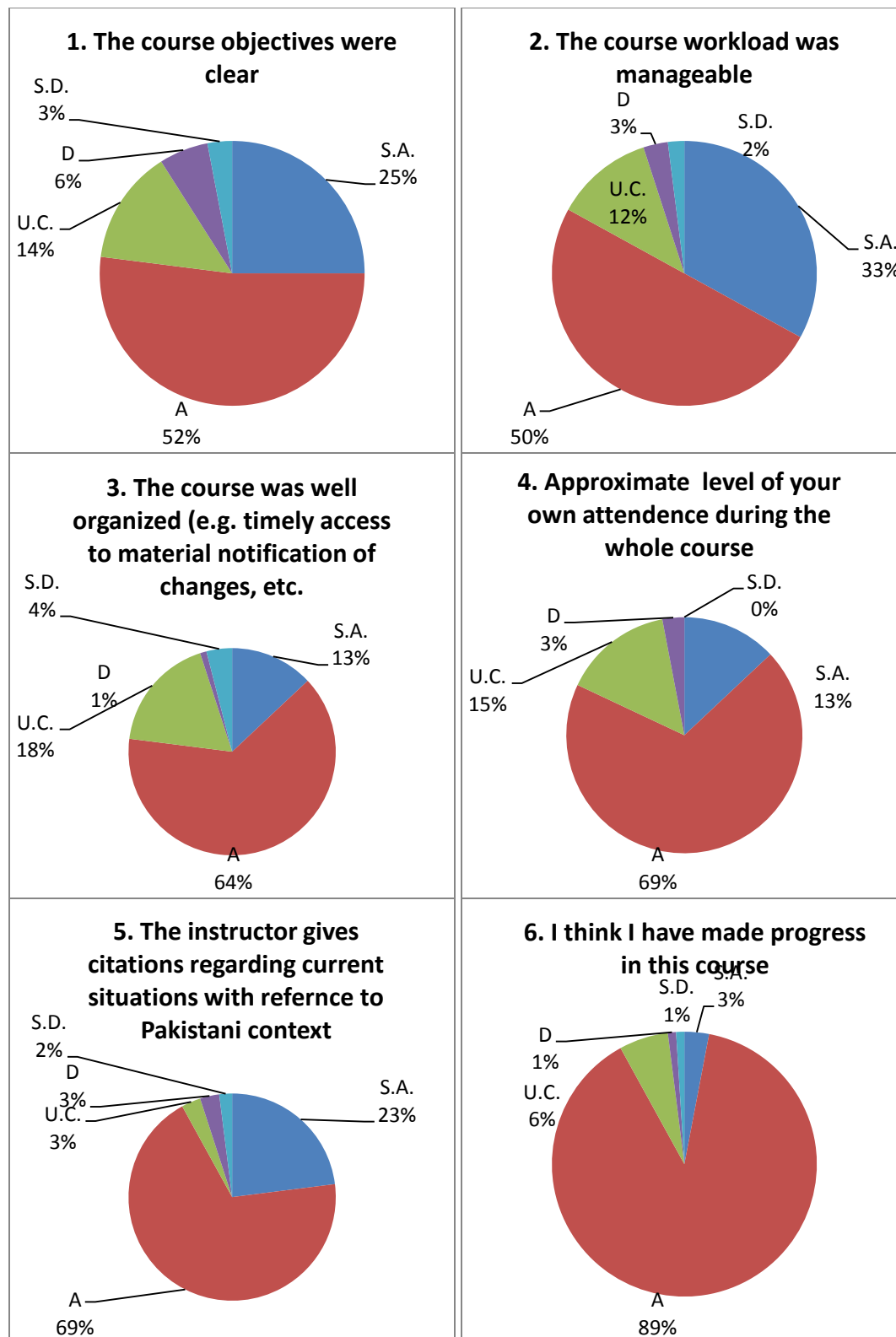
ii. Course Evaluation

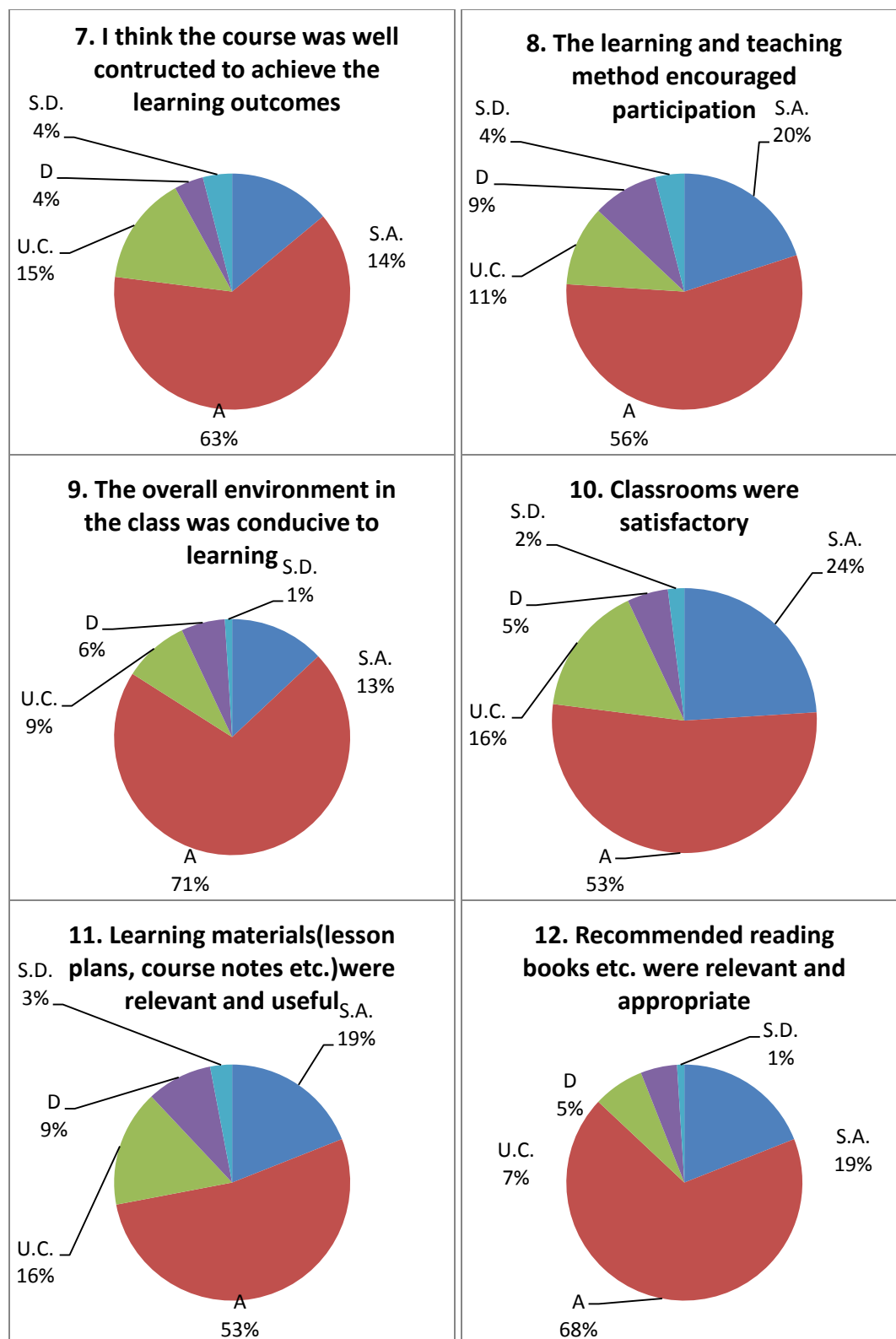
AGR-708	Advanced Seed Technology	4(3-2)	Dr. Ghulam Qadir
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Data were collected from 18 students. Comparative graph of course evaluation showed, that the course (AGR-708) taught by Dr. Ghulam Qadir had an impact value of 4.7. The individual parameter showed that 25% the students strongly agreed, 52% agreed, 14% uncertain, 6% disagreed and 3% strongly disagreed that the course objectives were clear. Data regarding other parameters showed that major proportion of the students agreed that the course objectives were clear, the course workload was manageable, well organized, the approximate level of student's attendance during the whole course was higher; students participated actively in the course and have made progress in this course, the learning and teaching methods encouraged participation, the overall environment in the class was conducive to learning, and classrooms were satisfactory, learning materials (Lesson Plans, Course Notes etc.) were relevant and useful, recommended reading books etc. were relevant and appropriate, the provision of learning resources in the library was adequate and the course stimulated their interest and thought on the subject area.

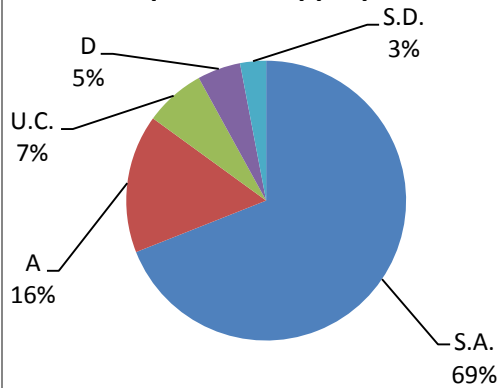
Comments / Suggestions

- Course could have been improved if the teacher were regular to his classes
- Learning environment was not good.
- Practicals and field visits can improve the course effectiveness.
- Proper class room should be provided for providing the calmful learning environment

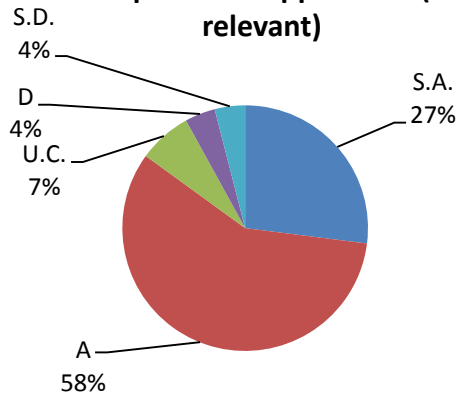




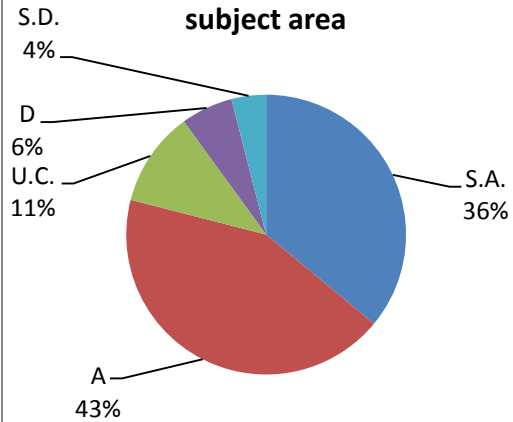
13. The provision of learning resources in the library was adequate and appropriate



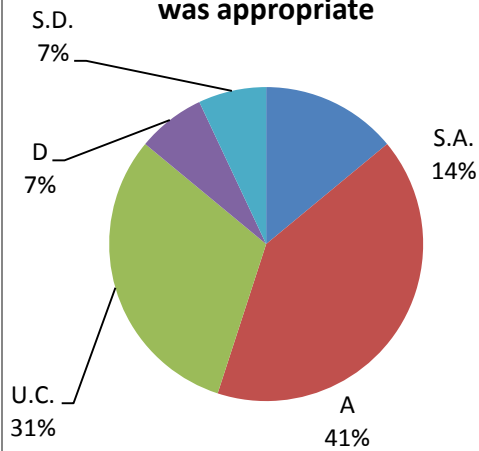
14. The provision of learning resources on the web adequate and appropriate. (if relevant)



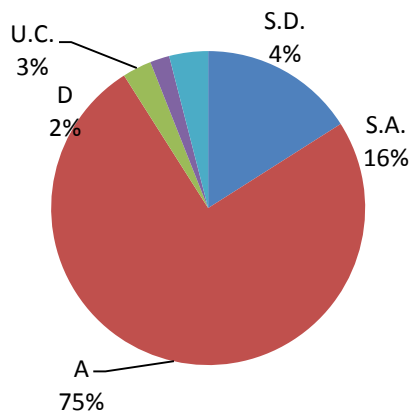
15. The course stimulated by interest and thought on the subject area



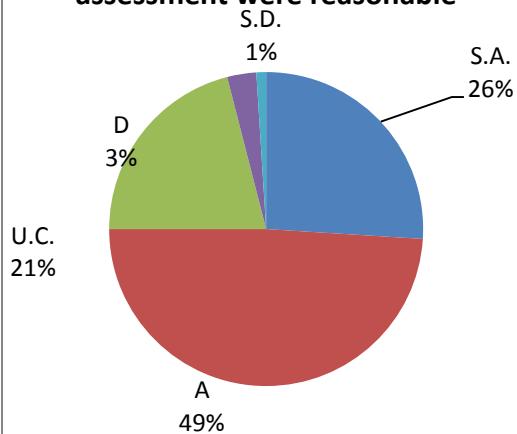
16. The pace of the course was appropriate

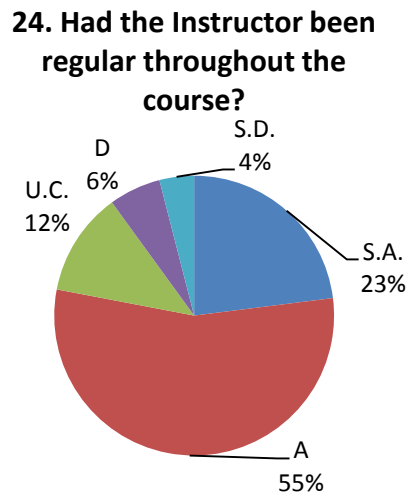
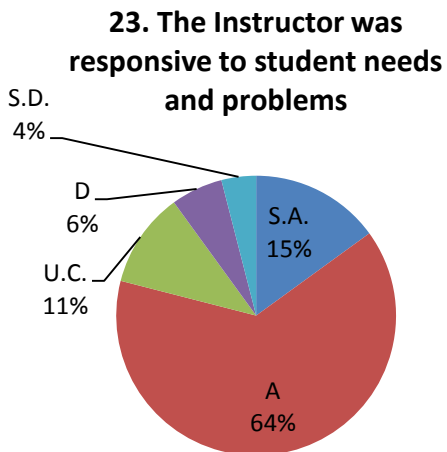
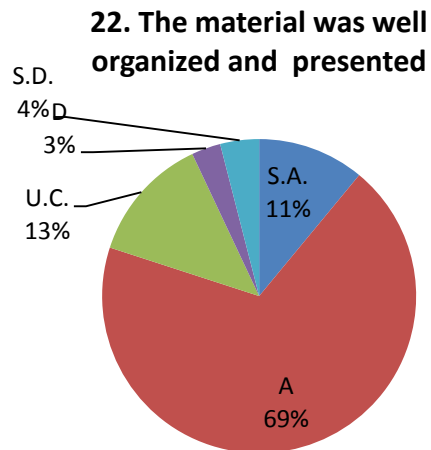
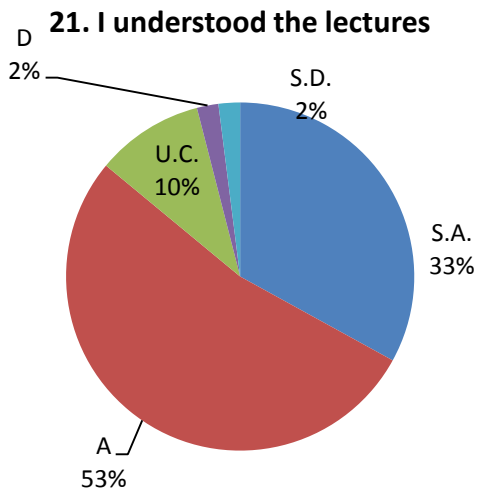
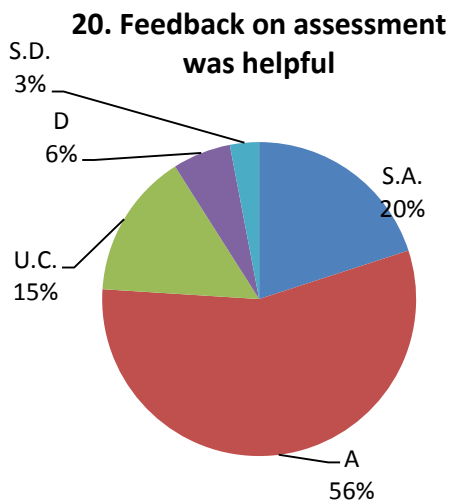
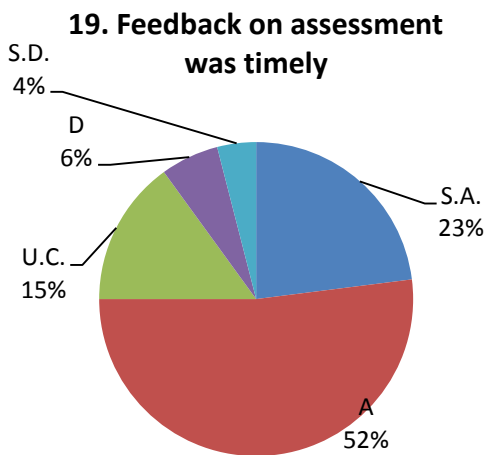


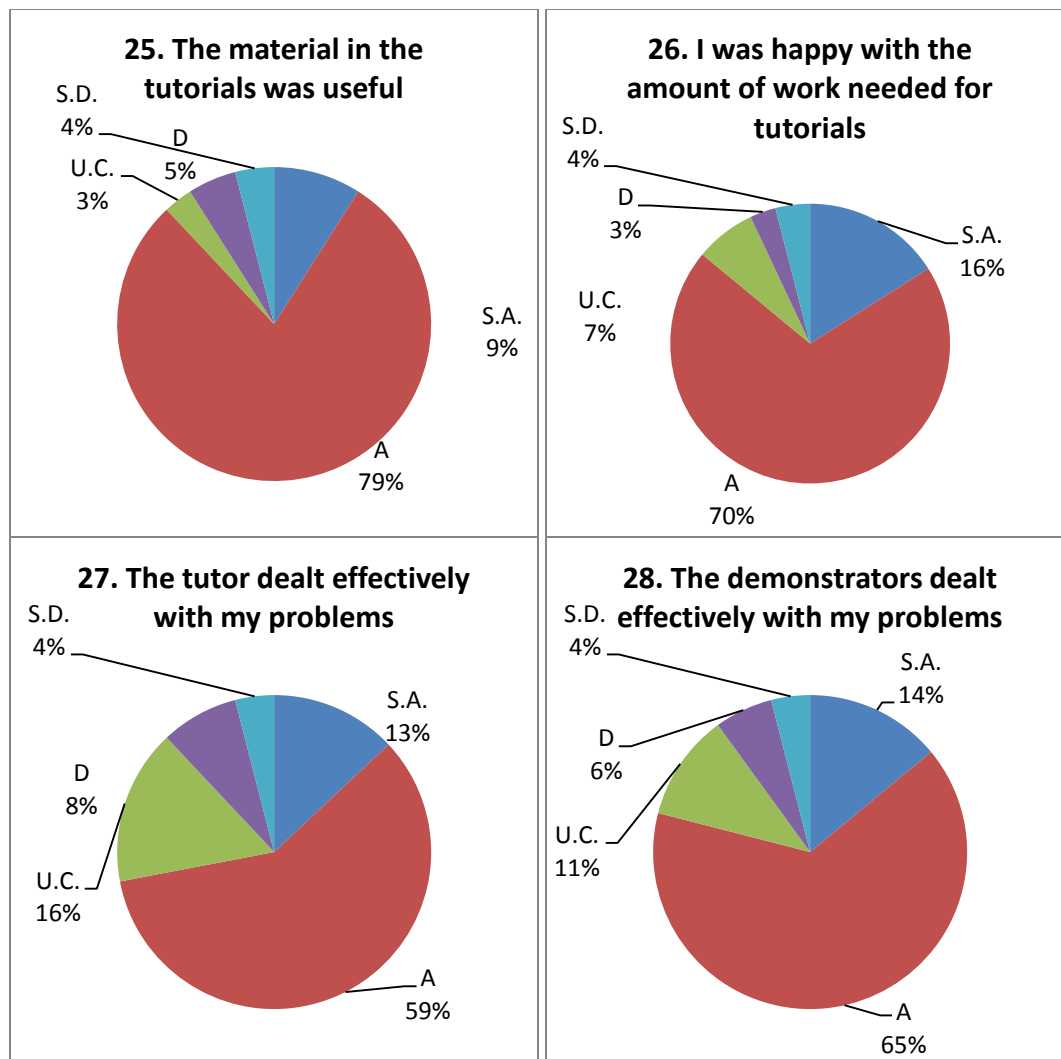
17. Ideas and concepts were presented clearly



18. The methods of assessment were reasonable





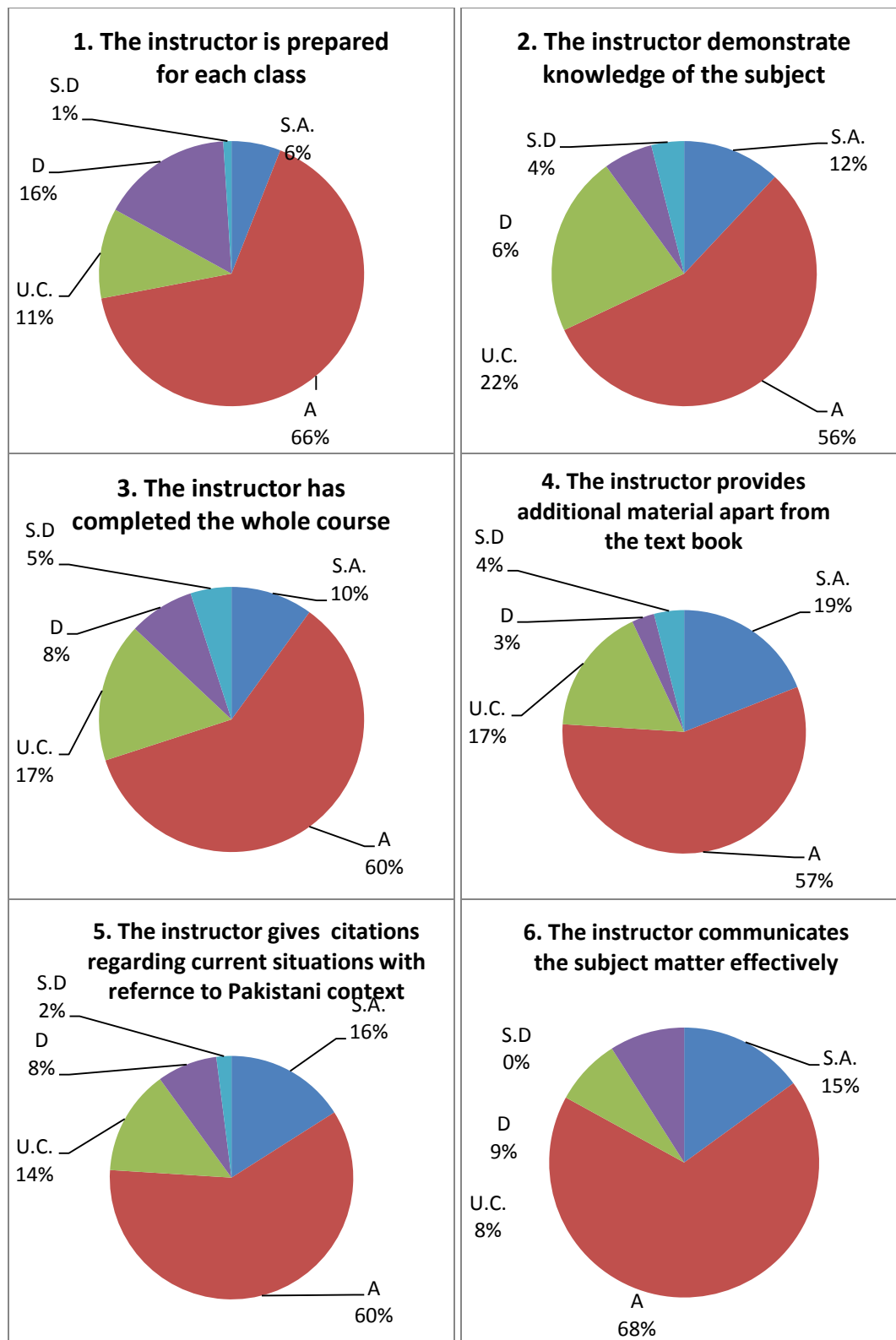


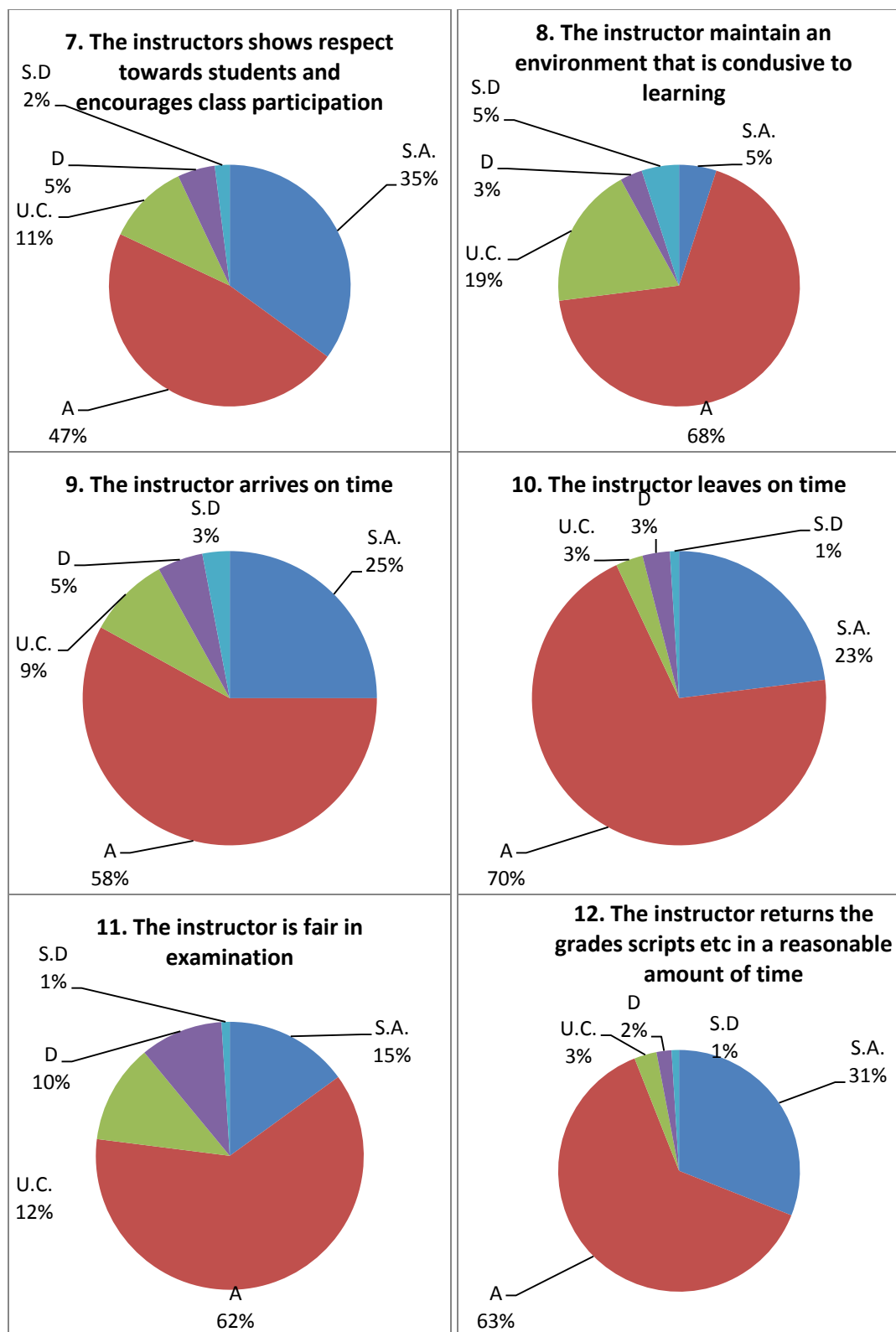
Prof. Dr. Muhammad Ashraf
i. Teacher Evaluation

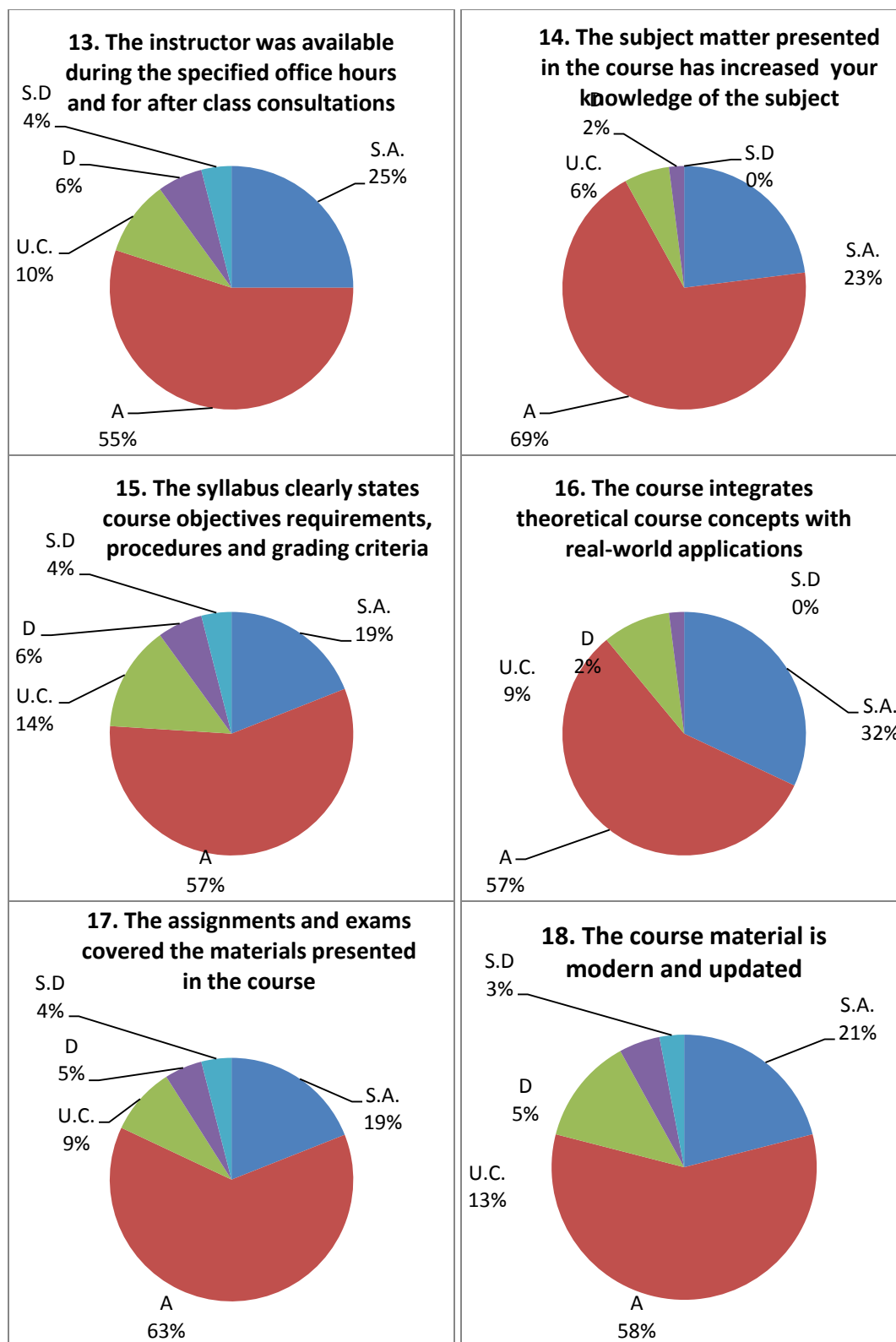
Data were collected from 18 students. . Comparative graph of teachers' evaluation exhibited that Prof. Dr. Muhammad Ashraf had a very good impact value of 4.63. The evaluation criteria parameters showed that the 6% of the students strongly agreed, 66% agreed, 11% uncertain, 16% disagreed, and 1% strongly disagreed that the instructor was prepared for each class. The data of other parameters inferred that major proportion of the students are agreed that the instructor demonstrates knowledge of the subject, instructor had completed the whole course, the Instructor provided additional material apart from the textbook, the Instructor gave citations regarding current situations with reference to Pakistani context, the Instructor communicates the subject matter, the Instructor shows respect towards students and encourages class participation effectively, the Instructor maintained an environment that was conducive to learning, the Instructor arrived on time, the Instructor returned the graded scripts etc. in a reasonable amount of time, the Instructor was available during the specified office hours after class for consultations, the Subject matter presented in the course has increased their knowledge of the subject, the syllabus clearly states course objectives requirements, procedures and grading criteria, the course integrates theoretical course concepts with real-world applications, and the assignments and exams covered the materials presented in the course, the course material is modern and updated.

Comments/Suggestions:

4. Good way of lessons, a man of forethought.
5. The instructor was well planned and prepared.
6. Presented the idea plainly.
7. distributed knowledge effectively.
8. Instructor is very punctual and diligent



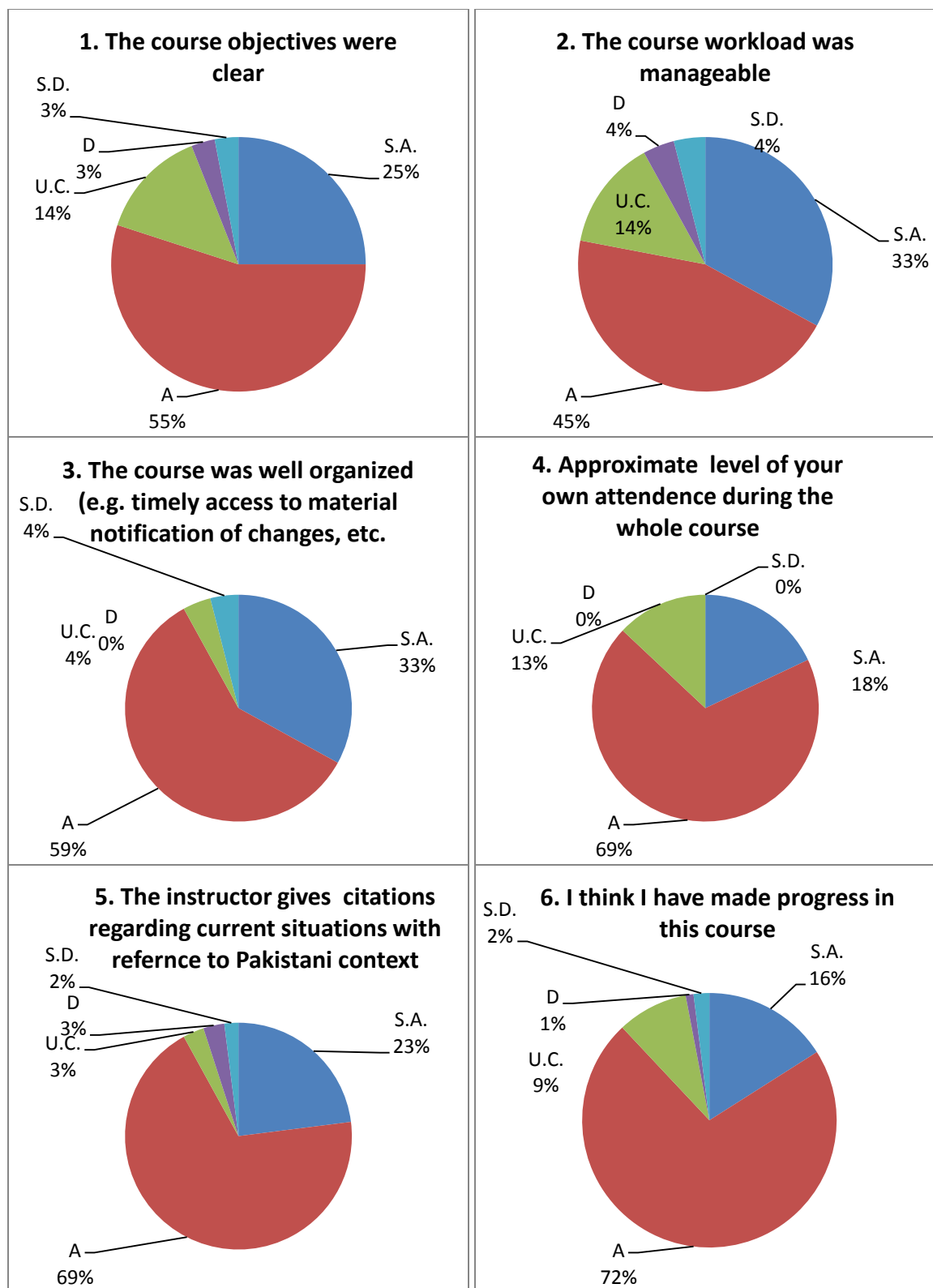


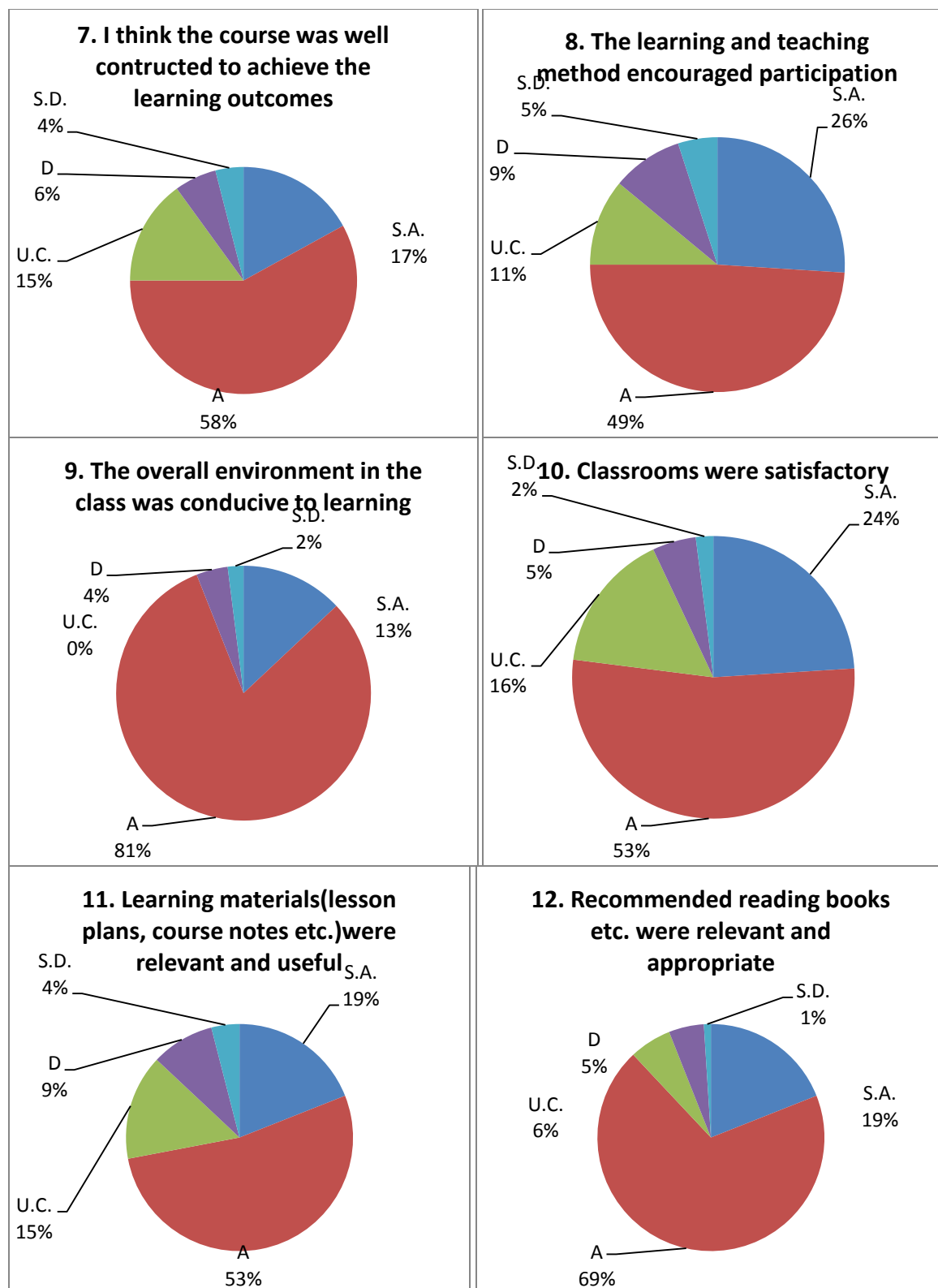


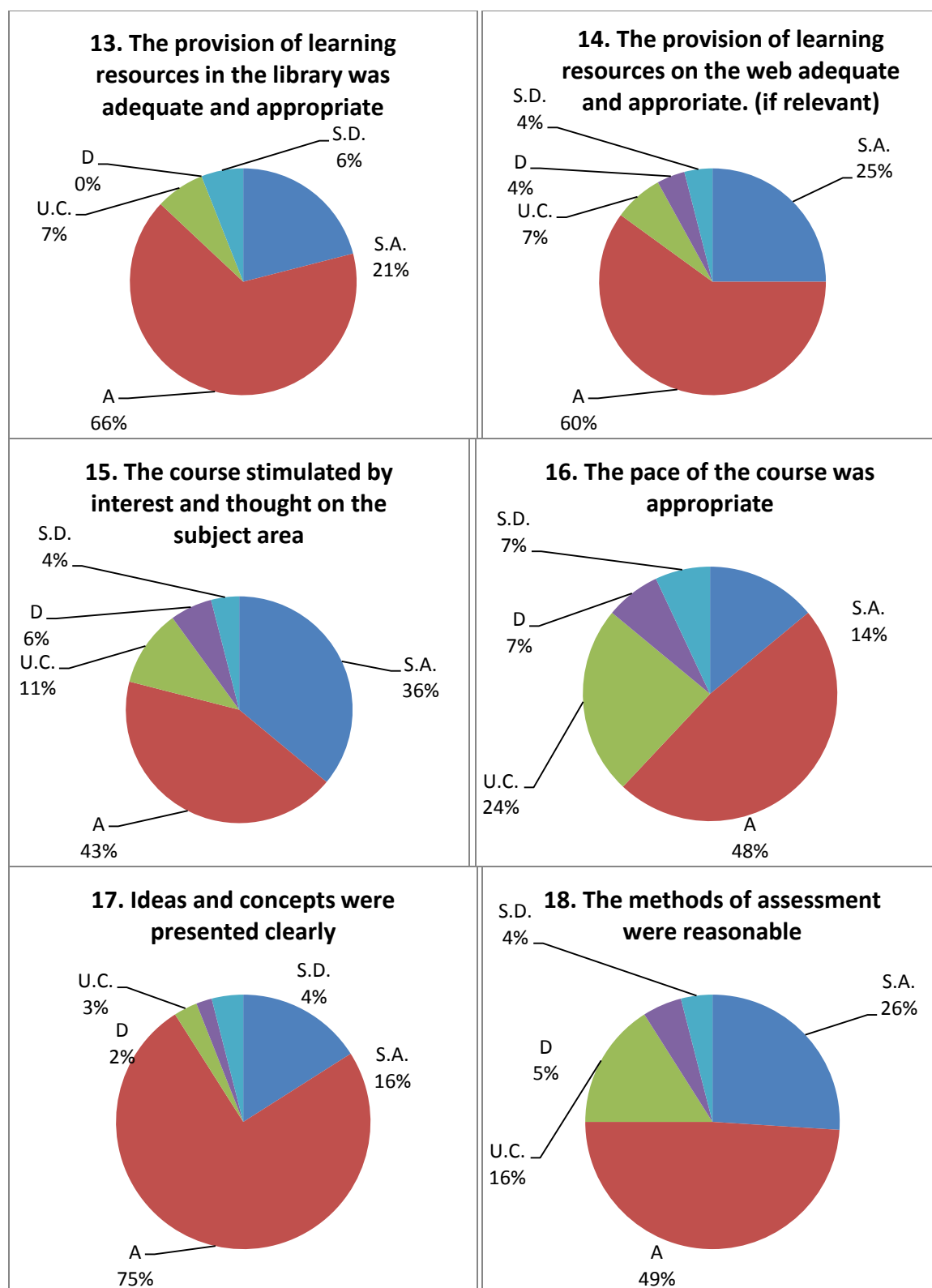
ii. **Course Evaluation**

AGR-710	Plant nutrition	3(2-2)	Dr. Muhammad Ashraf
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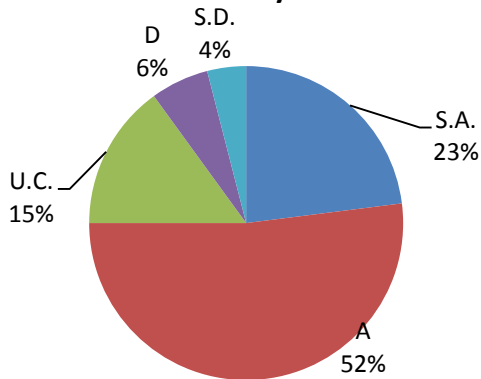
Data were collected from 18 students. Comparative graph of course evaluation showed, that the course (AGR-710) taught by Dr. Muhammad Ashraf had an excellent impact value of 4.6. The individual parameter showed that 25% the students strongly agreed, 55% agreed, 14% uncertain, 3% disagreed and 3% strongly disagreed that the course objectives were clear. Data regarding other parameters showed that major proportion of the students agreed that the course was well structured to achieve the learning outcomes (there was a good balance of lectures, tutorials, practical etc.), the learning and teaching methods encouraged participation, the overall environment in the class was conducive to learning, and classrooms were satisfactory, learning materials (Lesson Plans, Course Notes etc.) were relevant and useful, recommended reading books etc. were relevant and appropriate. ,the provision of learning resources in the library was adequate and the course stimulated their interest and thought on the subject area, the pace of the Course was appropriate, ideas and concepts were presented clearly, the method of assessment were reasonable, the material was well organized and presented, the instructor was responsive to student needs and problems, instructor was regular throughout the course and the material in the tutorials was useful.



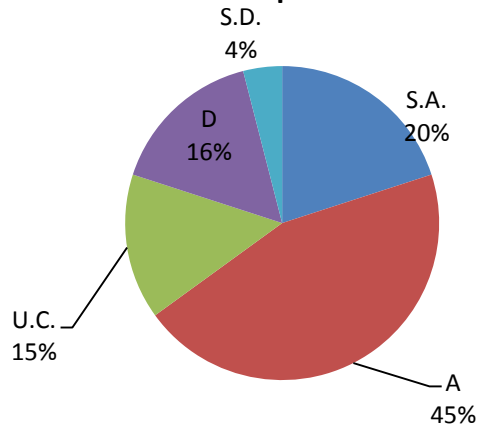




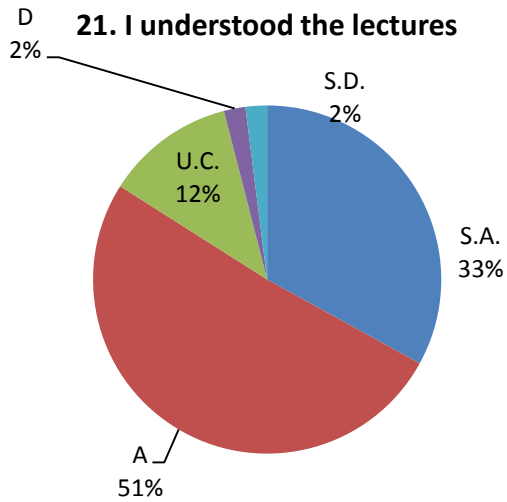
19. Feedback on assessment was timely



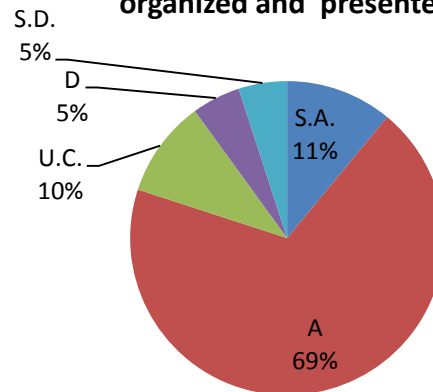
20. Feedback on assessment was helpful



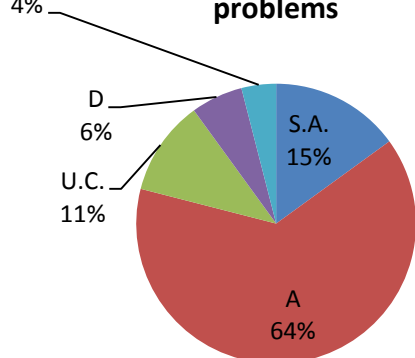
21. I understood the lectures



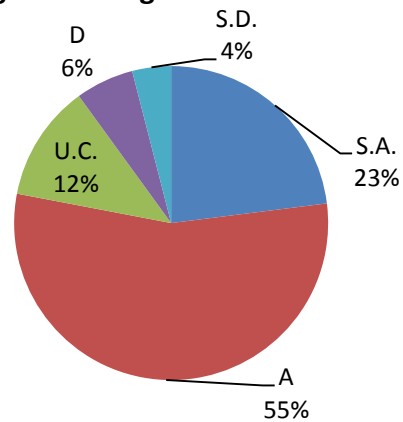
22. The material was well organized and presented

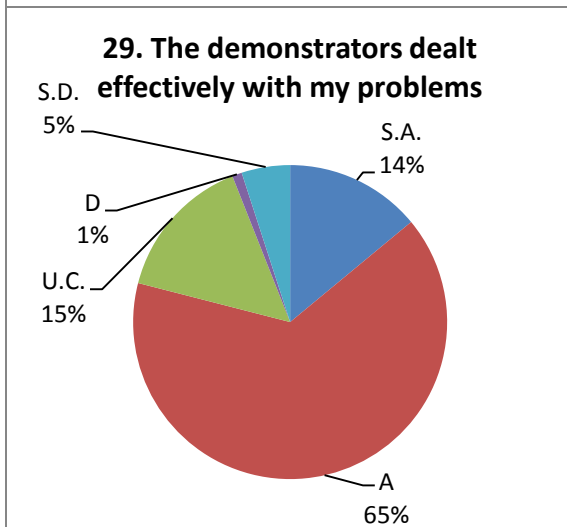
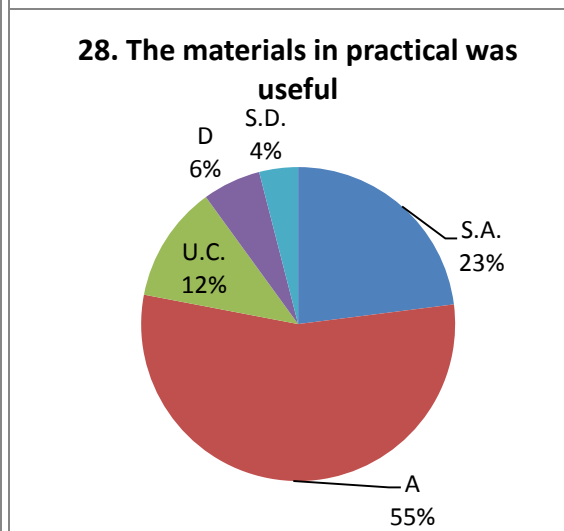
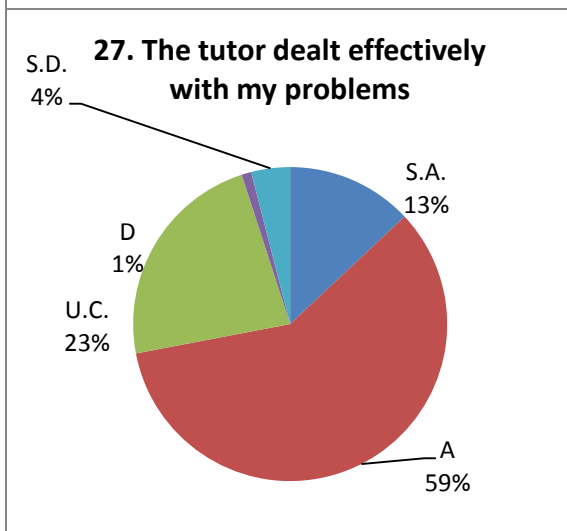
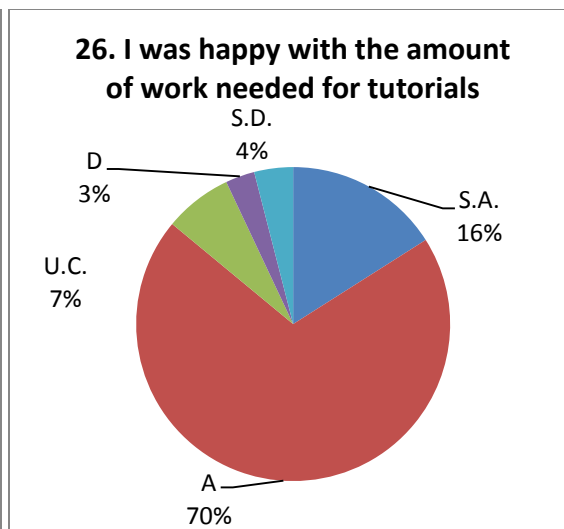
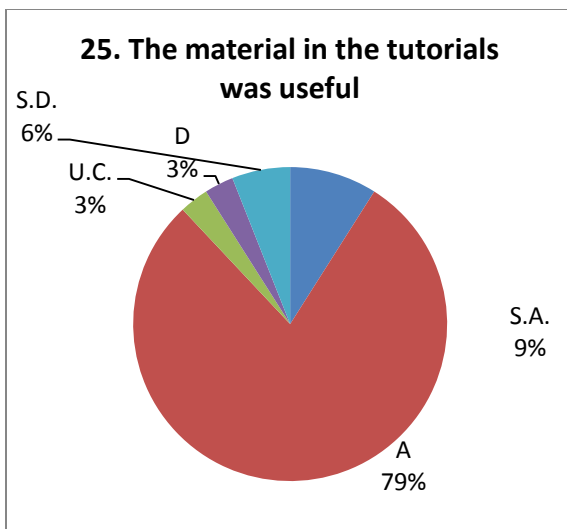


23. The Instructor was responsive to student needs and problems



24. Had the Instructor been regular throughout the course?





Proforma 2: Faculty Course Review Report

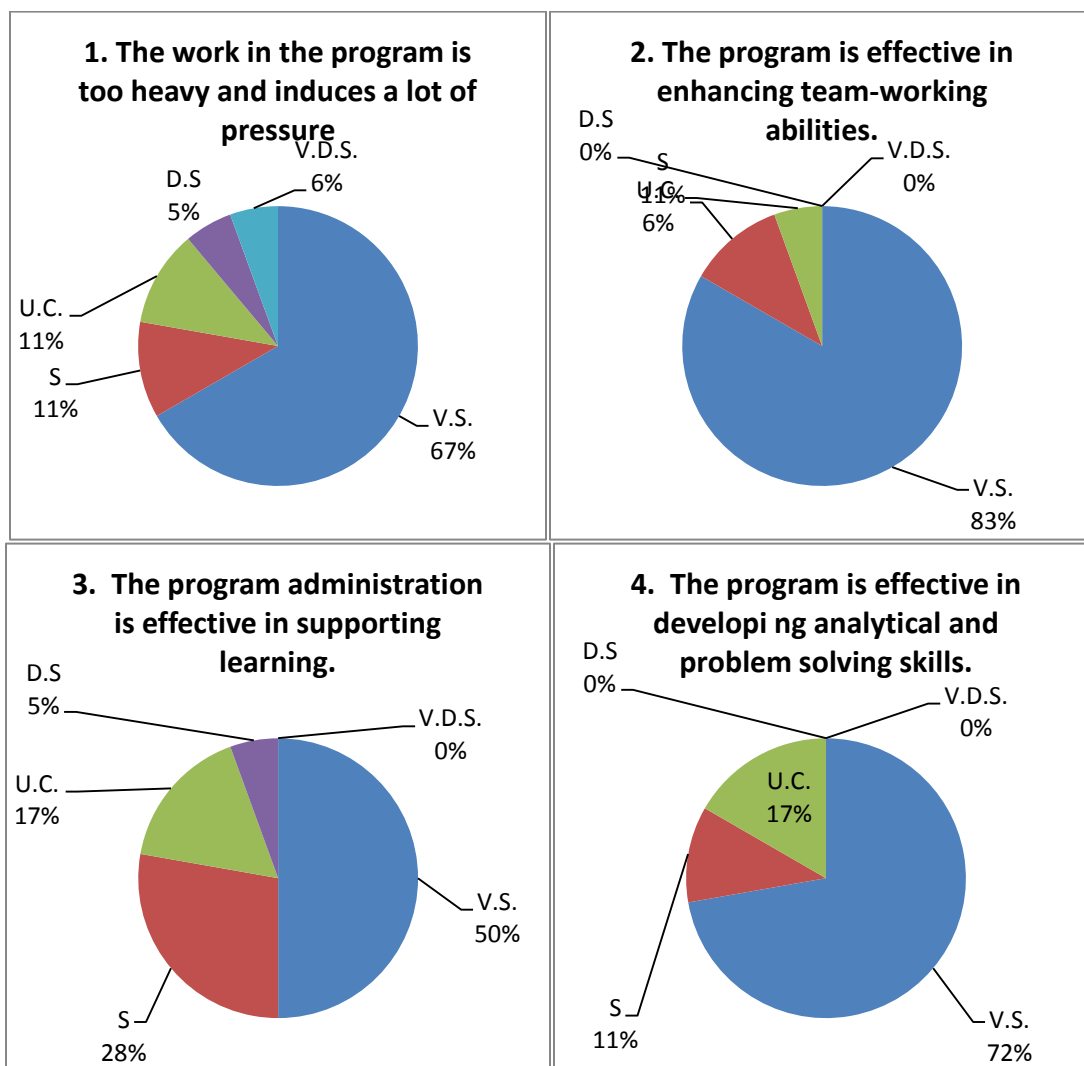
The evaluation revealed that the faculty is satisfied with curricula. Proformas for evaluation has been filled and analyzed. The internal evaluation was done through semestoral examinations for all courses offered by department. Some of the teachers suggested splitting up of certain courses as they were lengthy.

Course code	Title	Credit Value	Assessment Methods/ Exams	No. of Students	comments on curriculum	Any changes for future in course	Semester	%Grade						Course Instructor
								A	B	C	D	E	F	
AGR-701	Advanced field crop production	4(3-2)	Mid term And Final	18	Good and interesting	Should be improved	Fall	35	31	34	-		-	Dr. Zammurad Iqbal Ahmed
AGR-702	Advanced Agronomy	4(3-2)	Mid term And Final	18	Good but lengthy	Should be divided	Spring	24	38	38	-	-	-	Prof..Dr. Fayyaz ul Hassan
AGR-703	Dryland Agro-management	3(3-0)	Mid term And Final	18	Good but lengthy	Should be divided	Fall	13	55	12	15			Dr. Muhammad Azim Malik
AGR-704	Crop environment	3(2-2)	Mid term And Final	18	Excellent but lengthy	Should be divided	Spring	60	10	21	6	2	1	Mr. Irfan Aziz
AGR-706	Weed management	4(3-2)	Mid term And Final	18	Very good	No	Fall	13	57	11	14	0	5	Dr. Muhammad Ansar

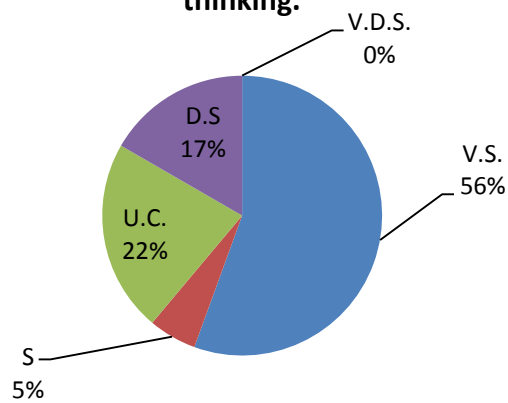
AGR-707	Field crop experimentation	4(3-2)	Mid term And Final	18	Good prepared	No	Fall	52	32	10	4	1	1	Dr. Zammurad Iqbal Ahmed
AGR-708	Advanced seed technology	4(3-2)	Mid term And Final	18	Well prepared	No	Spring	40	38	11	9	0	2	Dr. Ghulam Qadir
AGR-710	Plant Nutrition	3(2-2)	Mid term And Final	18	Well prepared	No	Fall	52	26	13	8	1	0	Dr. Muhammad Ashraf

Proforma 3: Survey of Graduating Students

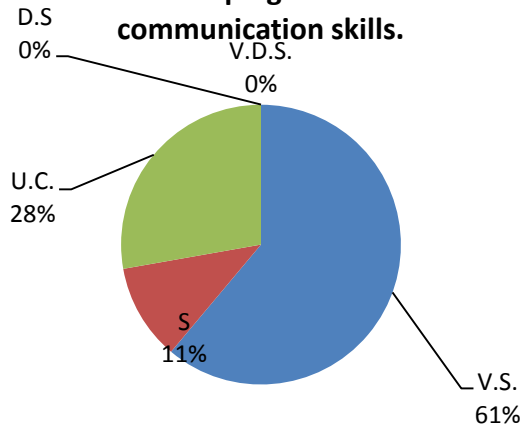
A total of 34 students were included in the survey. The data showed that 67% of the students were very satisfied (VS), 11% satisfied, 11% uncertain, 5% dissatisfied and 6% very dissatisfied for the work in the program is too heavy and induces a lot of pressure. Moreover, most of the students were very satisfied with program administration, development of analytical and problem solving skills, the program is effective in developing independent thinking, written communication skills and planning abilities, the contents of curriculum are advanced and meet program objectives, faculty was able to meet the program objectives and the environment was conducive for learning.



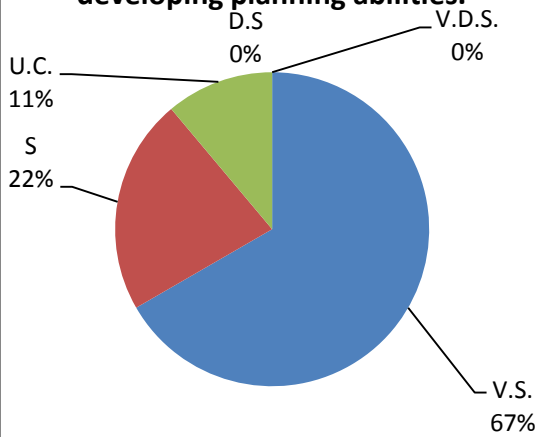
5. The program is effective in developing independent thinking.



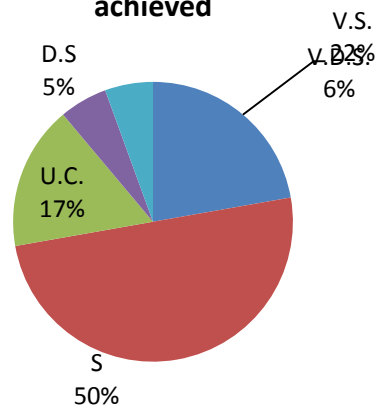
6. The program is effective in developing written communication skills.

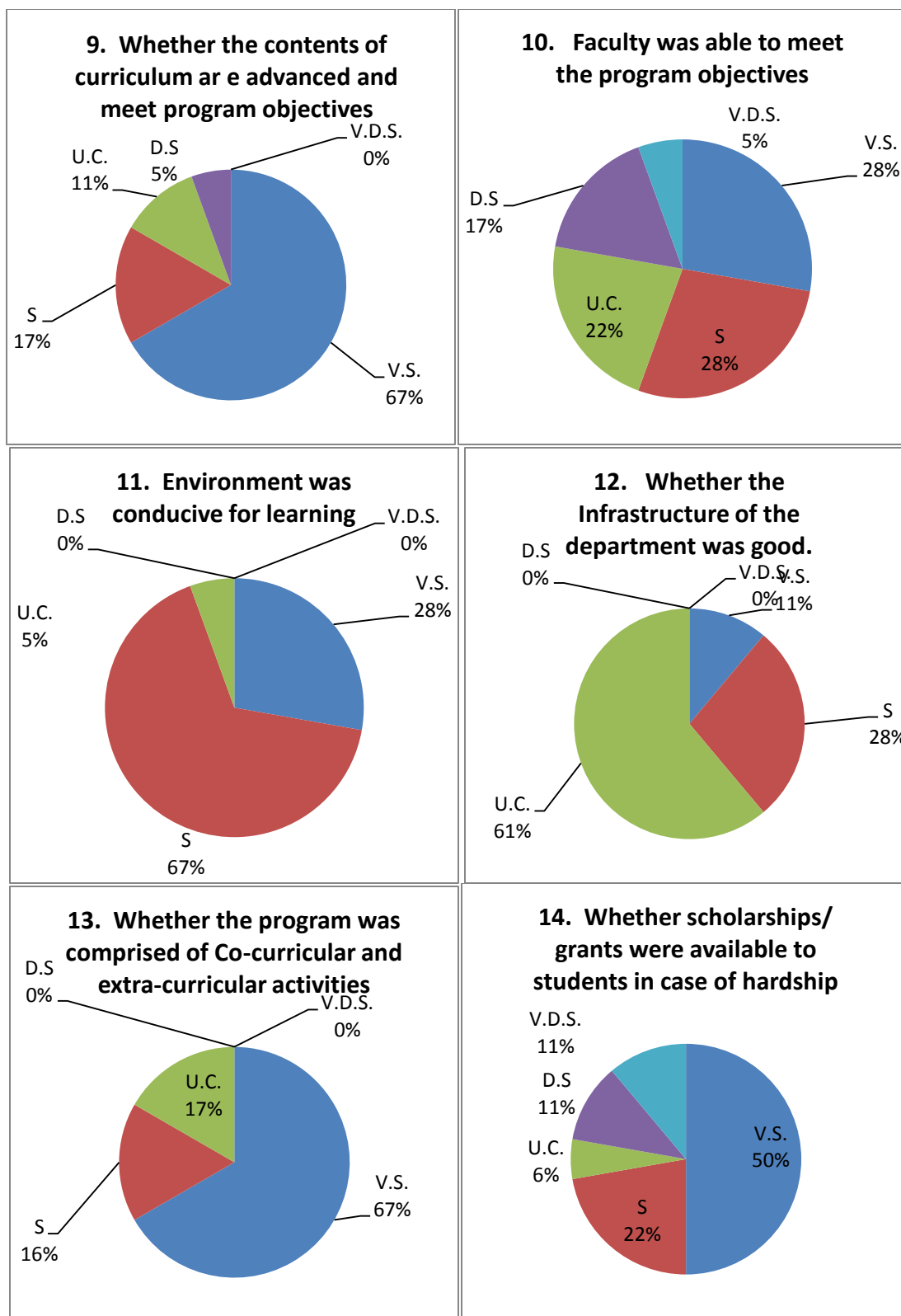


7. The program is effective in developing planning abilities.



8. The objectives of the program have been fully achieved





Proforma 4 : Research Student Progress Review Form

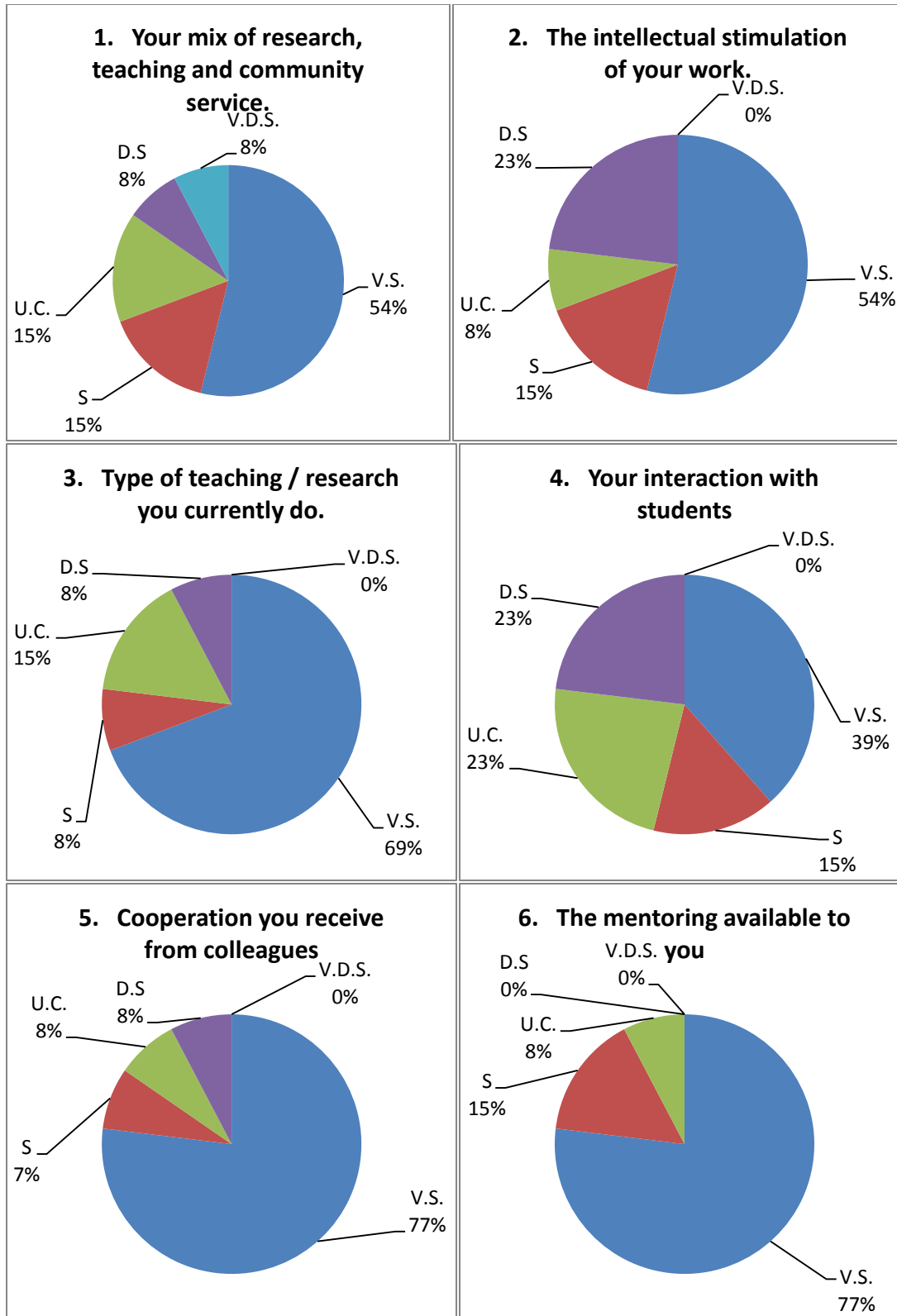
A total of 16 students of M.Sc. (Hons.) were surveyed. Most of the students of the Masters are interested in laboratory work and eager to operate modern equipments. They pointed out the problems regarding to the availability of space, computers and internet which is very poor.

Skills and Capabilities Reflected in Performance as Agronomist

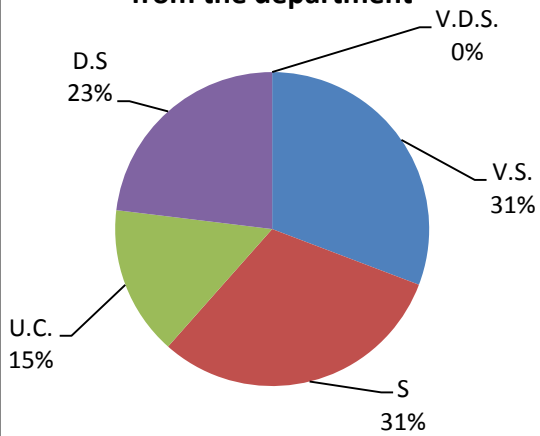
- Students will be able to work in the field of Agronomy with confidence.
- To develop abilities of effective writing, oral presentations and demonstration.
- To use modern techniques/ tools in research studies

Performa 5: Results of Faculty Survey

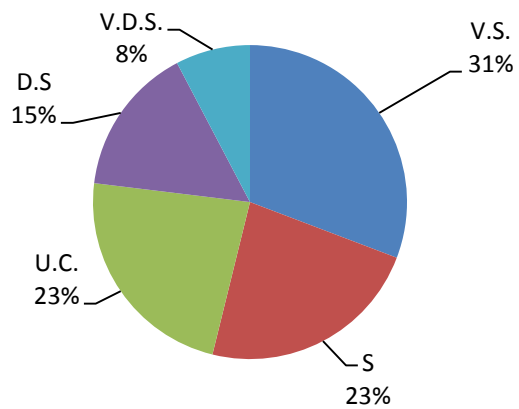
The data generated as a result of faculty survey, showed that 31% of faculty members were very satisfied , 23% satisfied, 23 uncertain, 15% dissatisfied and 8% very dissatisfied are satisfied with their job clarity about promotion process . However, most of the faculty themselves reported as very satisfied mentoring and administrative support, job security, support from the department, their progress through ranks. The least time availability to faculty to interact with their family is due to extra load on present teachers as some times of the faculty members proceed on training, workshops etc so the poor strength of remaining faculty in the campus has to bear out the load of course work and other assignments.



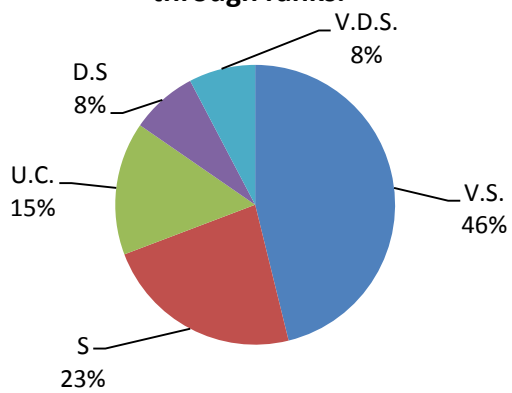
7. Administrative support from the department



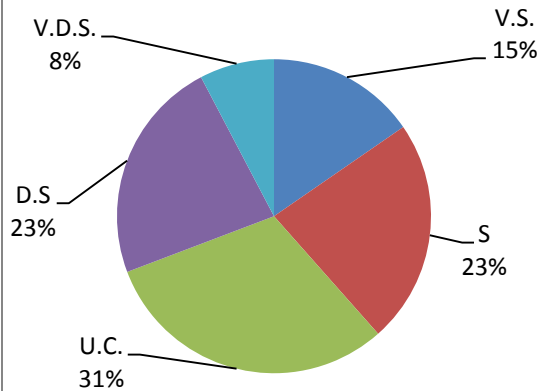
8. Providing clarity about the faculty promotion process

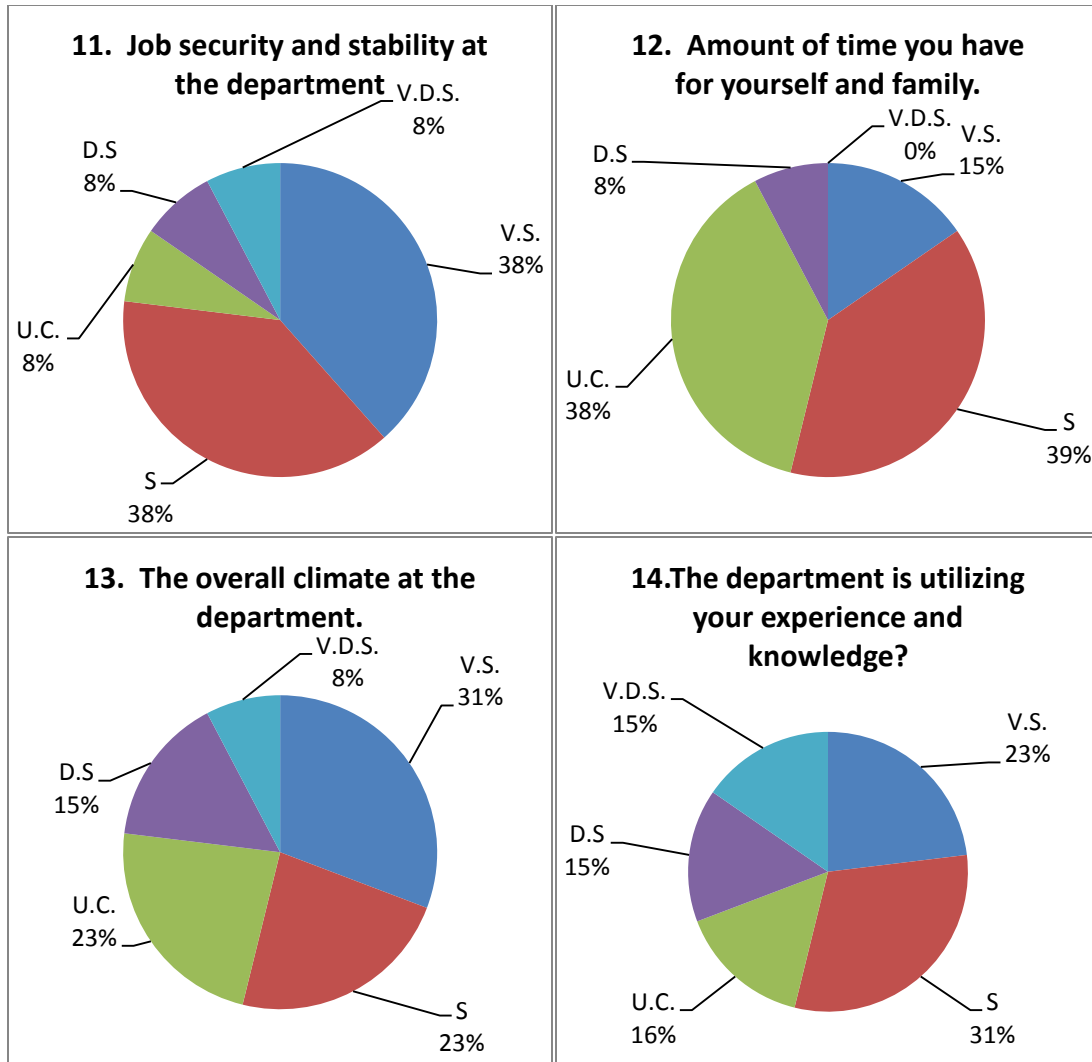


9. Your prospects for advancement and progress through ranks.



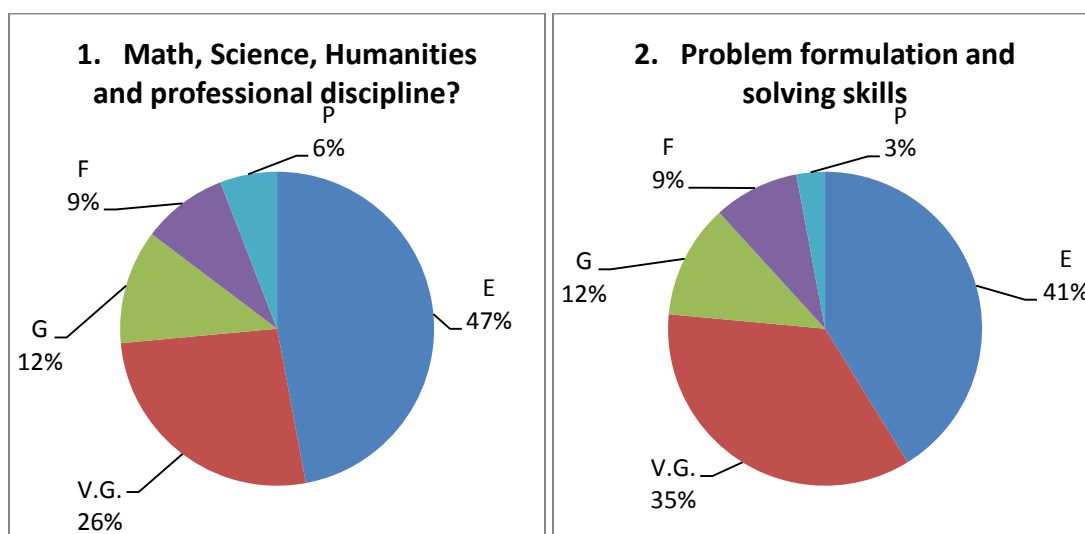
10. Salary and compensation package.

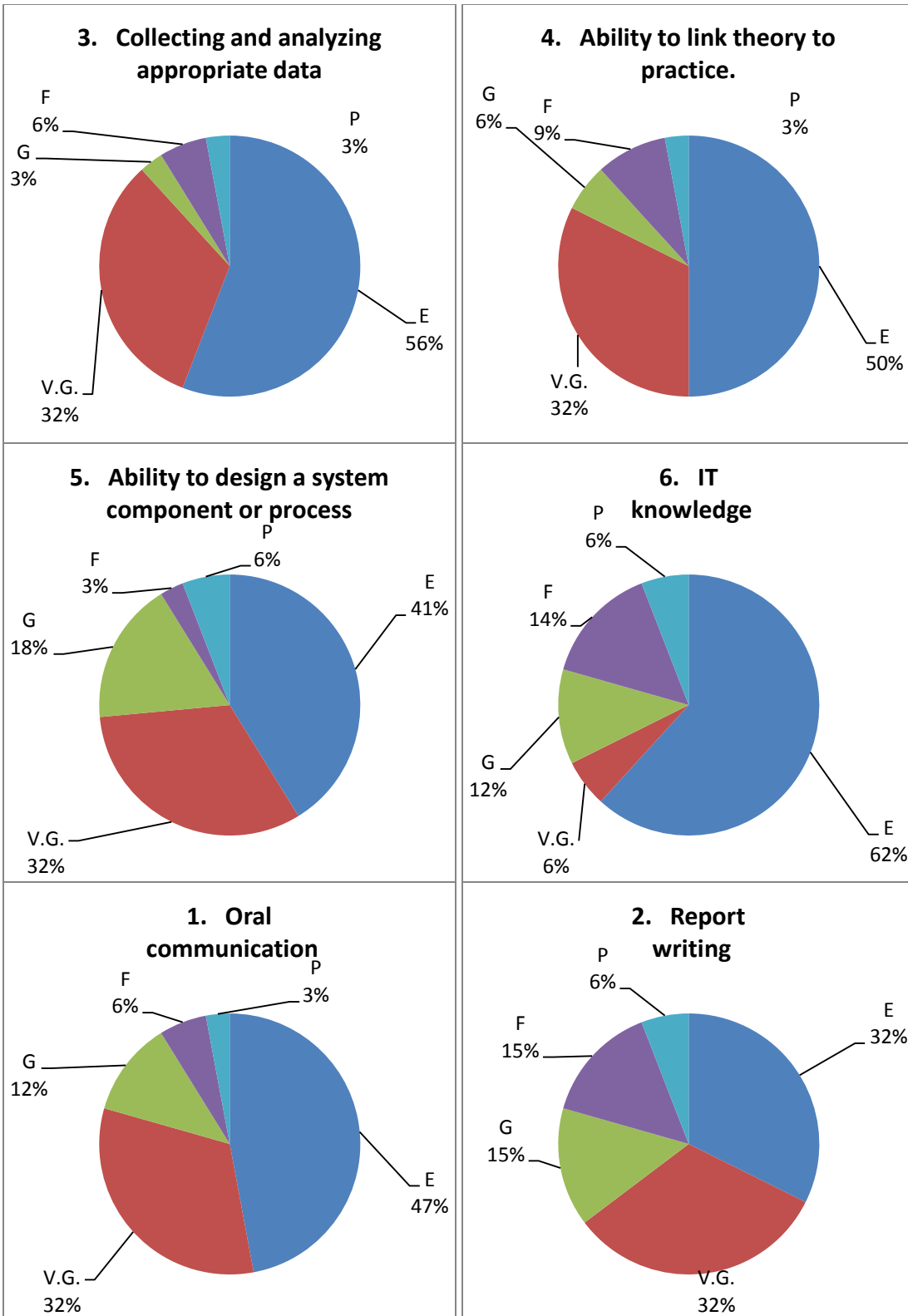


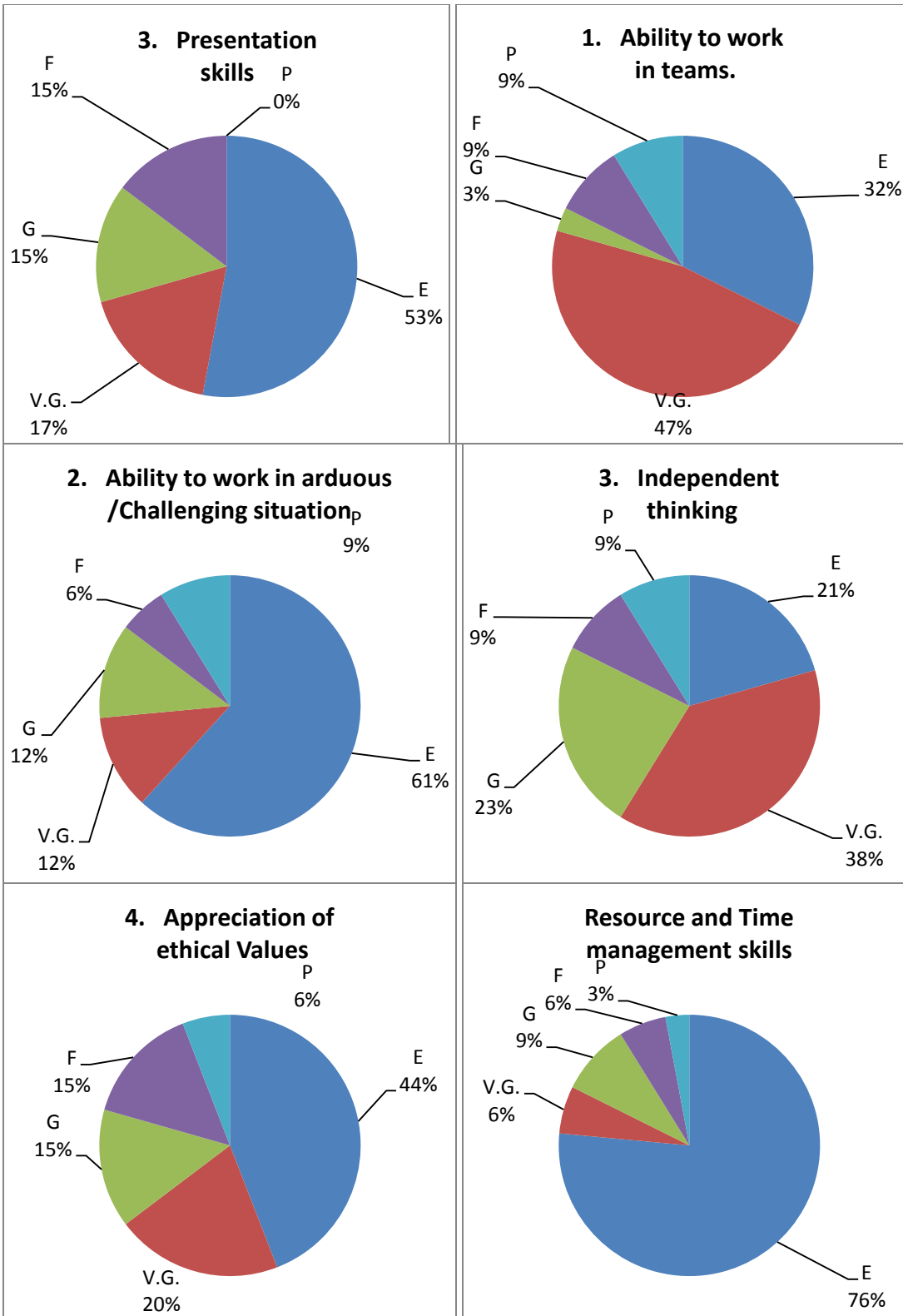


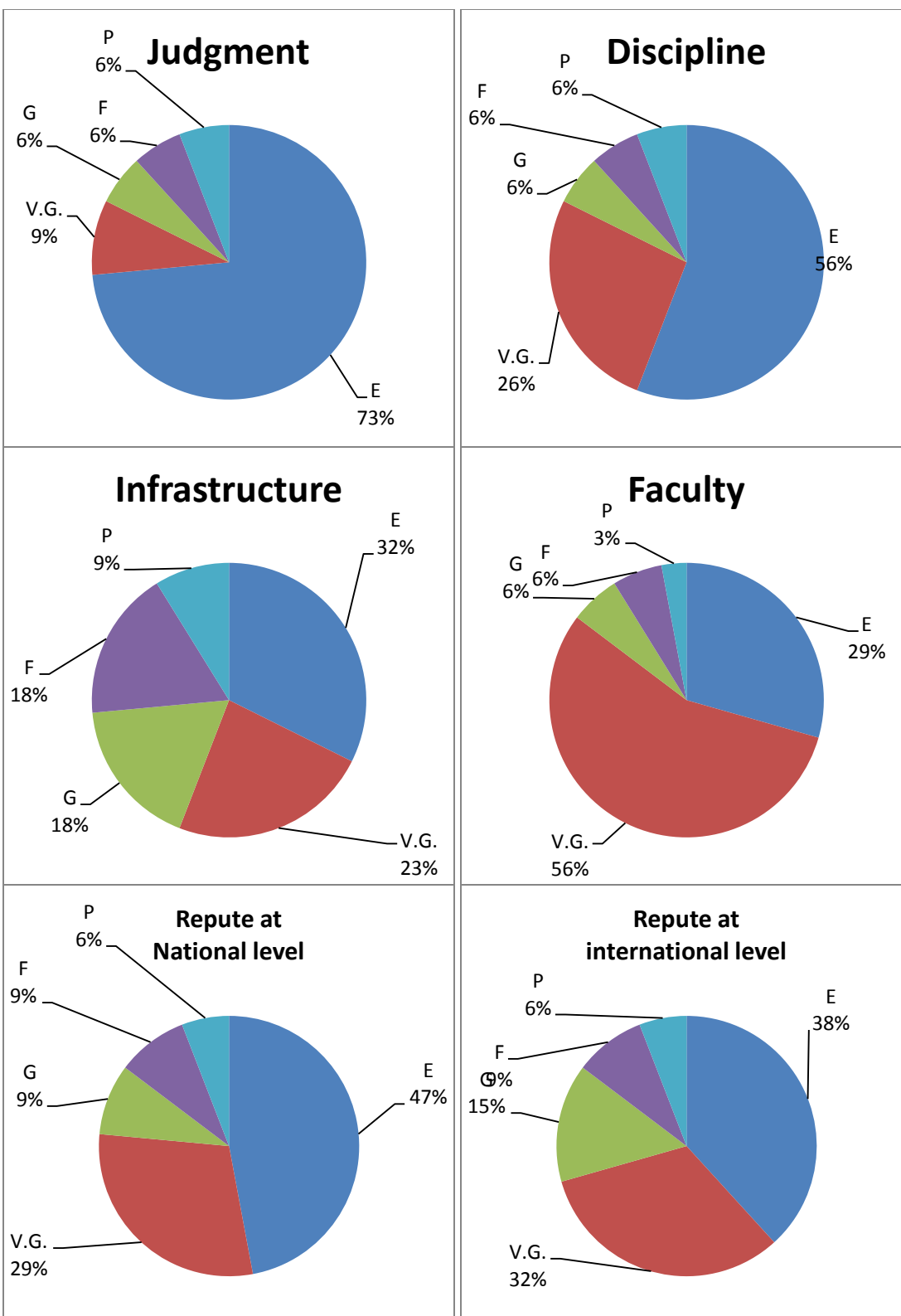
Proforma 7: Alumni Survey

The purpose of this survey was to obtain alumni input on the quality of education and research they received and the level of preparation they had at University. A total of 46 alumni were surveyed. The data showed that the alumni reported 47% excellent, 26% very good, 12% good, 9% fair and 6% poor knowledge of Math, Science, Humanities and professional discipline. Also most of the Alumni reported excellent concerning department trained them excellently about the interpersonal skills such as team work,, training of oral communication, IT knowledge, report writing and management skills, department has excellent infrastructure and reput, working in difficult conditions and independent philosophy, learnt excellent administration of resource and time, learnt excellent power of judgment.



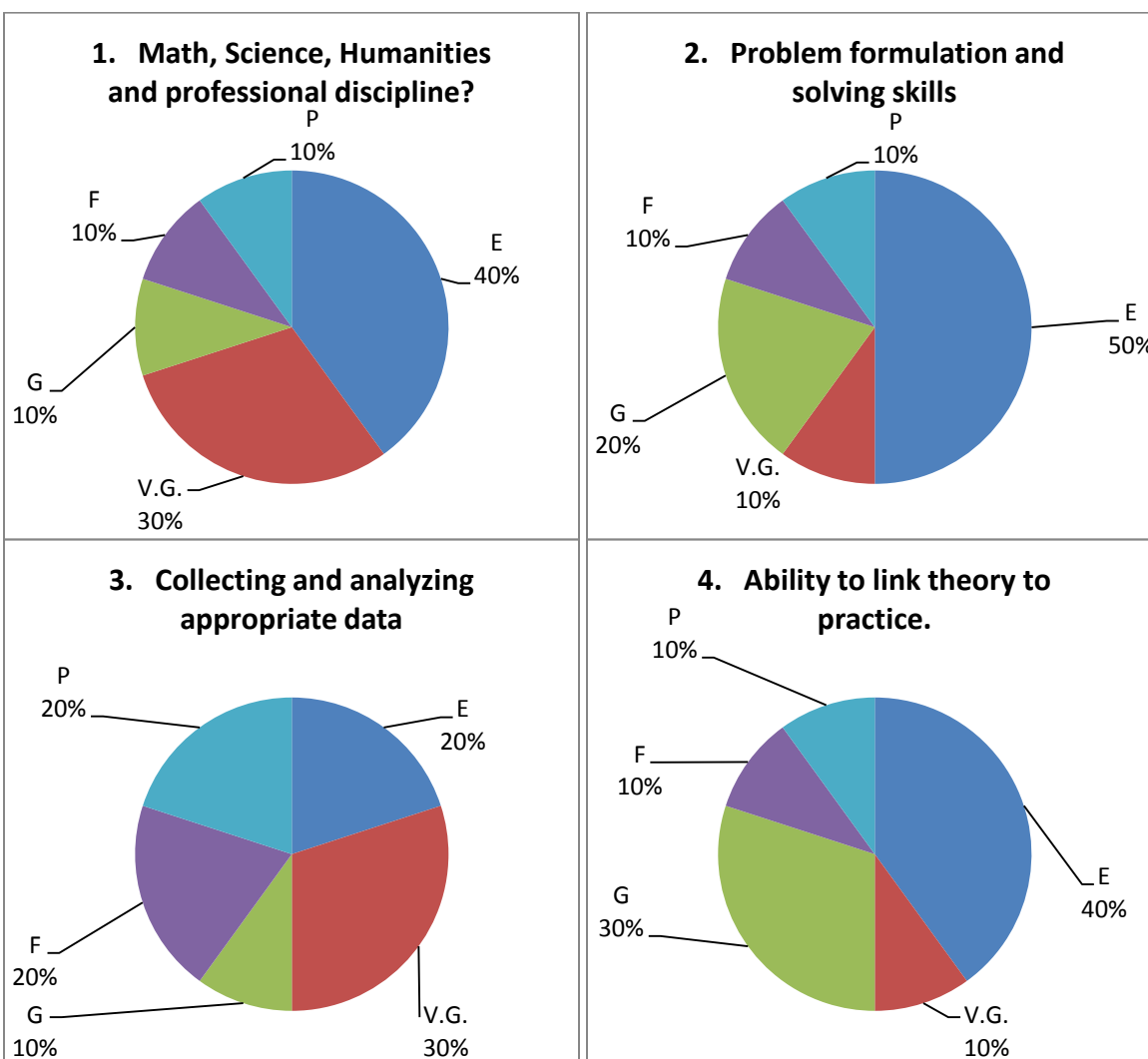


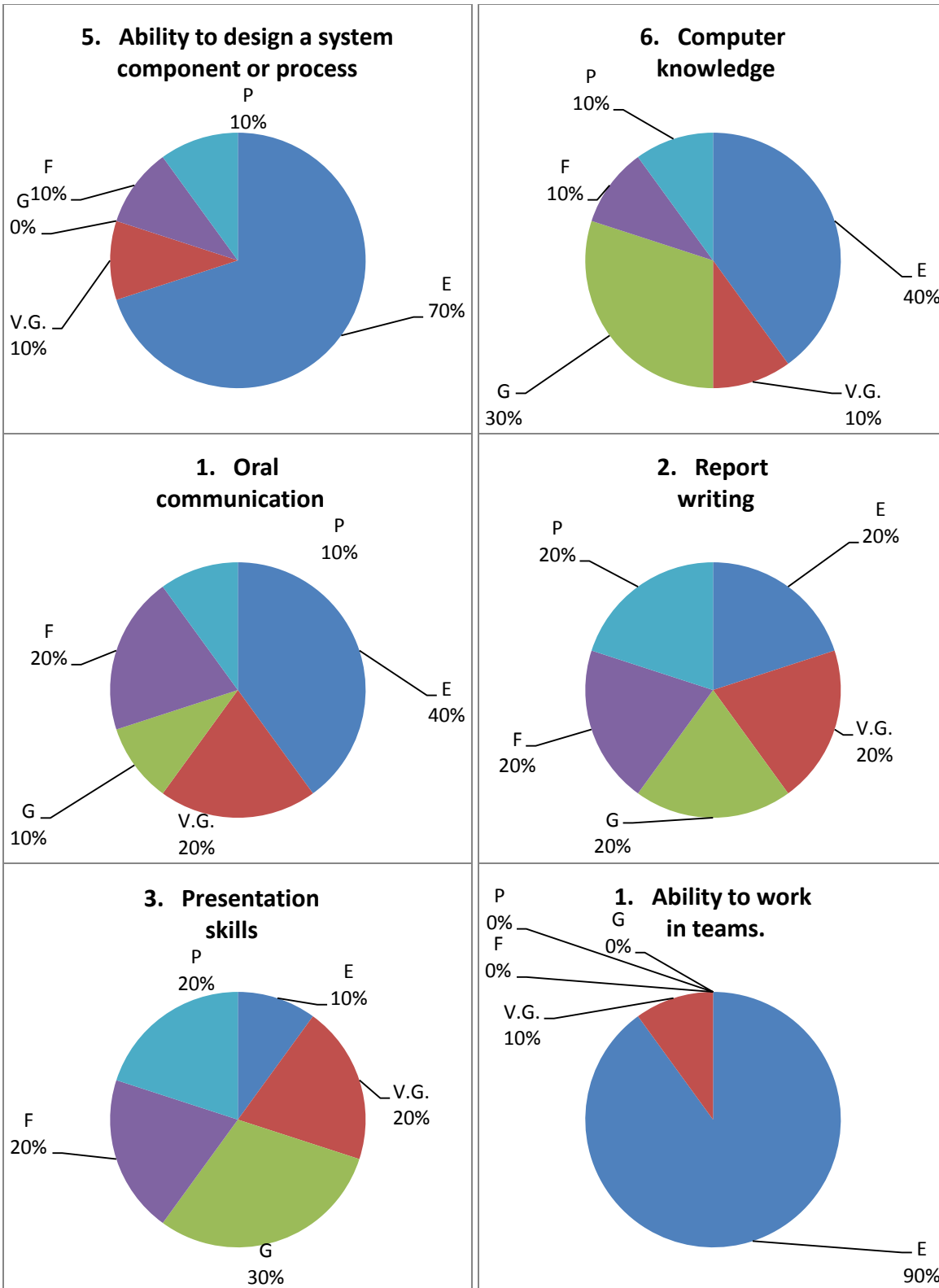


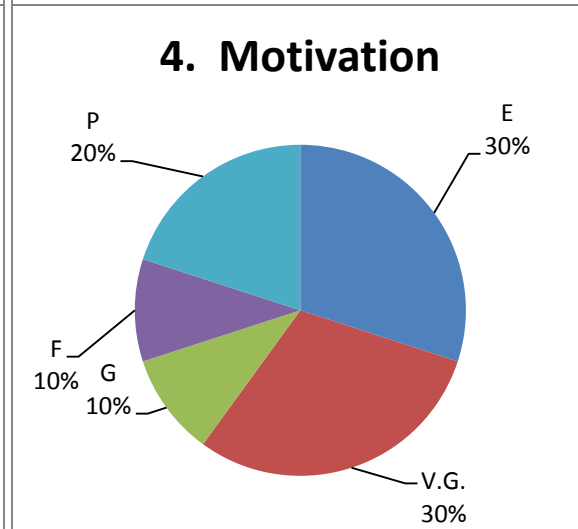
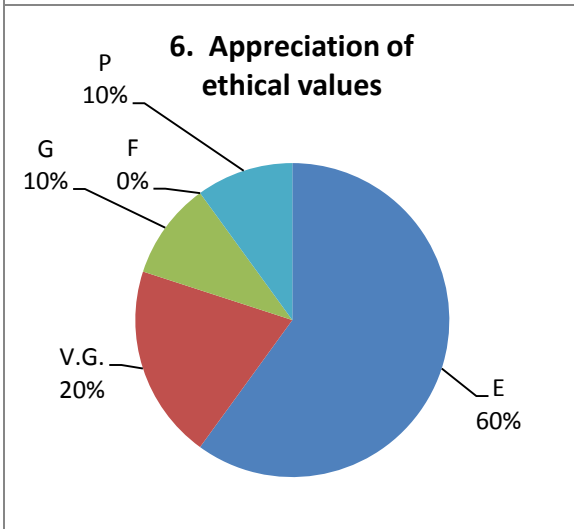
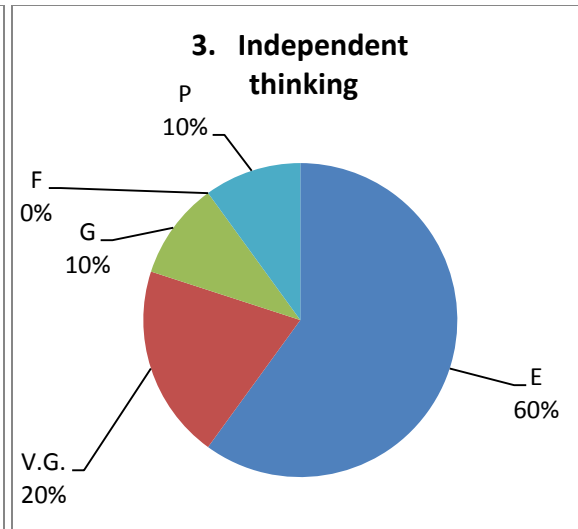
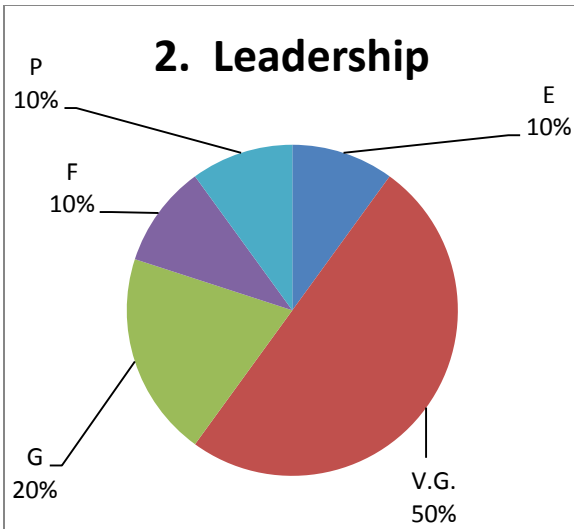


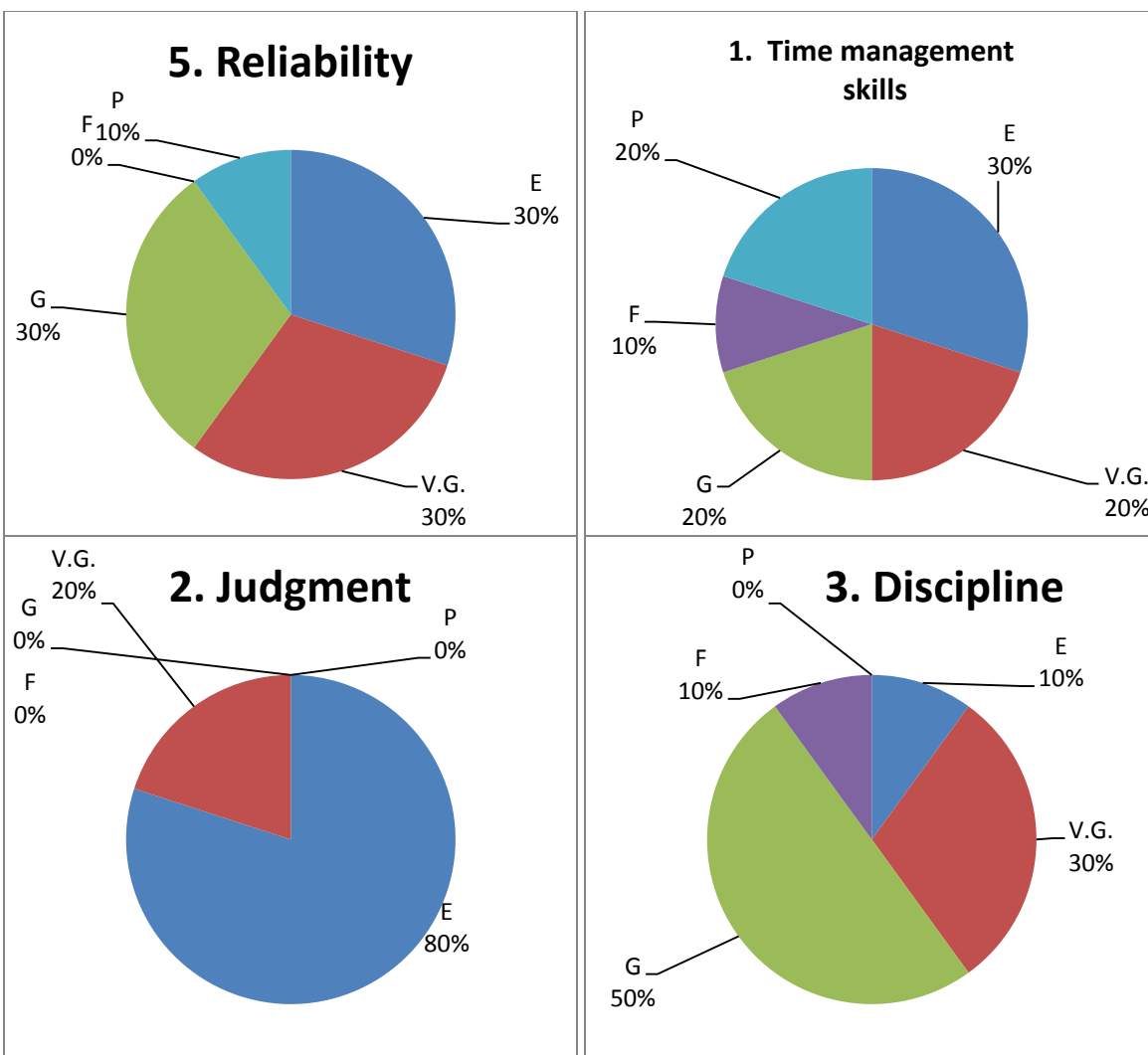
Proforma 8: Employer Survey

The rationale of this survey is to obtain employers input on the quality of education, the department is providing and to assess the quality of the academic program. The survey included University graduates employed in different organizations. A total of 9 employers provided the data. The generated data showed the report of the employers about the Math, Science, Humanities and professional discipline was as 40% excellent, 30% very good, 10% good, 10% fair and 10% poor. All the employers significantly favoured the excellent performance of the candidates as regards different aspects of the professional life like power of problem formulation and solving skills, and have great ability of oral communication and are reliable and morally sound. Employers showed a little apprehension about computer skills of the students.









Standard 1.3:Strength of the Department

The results are being communicated to the respective departmental head through the Dean for corrective measures where needed.

Strength of the department

The main strength of the department is the availability of highly qualified teachers and their full acquaintance with respective subjects. Majority of the faculty members are foreign qualified and are well versatile in their area of interest.

Weakness Identified in the Program:

Lack of infrastructure to transfer the recommendations and technology to the farmers. Partial access to latest literature and updated review . There is a lower frequency deputing the young faculty for foreign trainings ..

Major Feature of Improvement Plans

Quality education in the department is met partially through audio visual aids and use of modern equipments along with provision of latest literature, journals, books, reviews and access to internet.

The augmentation of knowledge and skills of faculty members to keep them up in pace with the latest global advancements in the discipline through is being practiced through faculty exchange programs(FEP), short training and collaborative research project(CRP) within and outside Pakistan.

Program out comes:**Table 3: Quantitative Assessment of the Department**

Sr. #	Particular	No	Remarks
1.	M.Sc (Hons.) Degree awarded	97	A few of the students joined Ph.D. Degree program and rest of the students got jobs in public and private institutes/organizations.

The evaluation process indicated high efficiency of system and satisfactory impact of outcomes. Almost all the graduates students got jobs in various organizations viz provincial agricultural department, universities, research organizations, banks and private firms.

Skills and capabilities Reflected in performance as Agronomy:

Students build up potential to apply information of Agronomy and to work as professionals to build self-confidence and communicate successfully in writing and oral skills. Students are able to make obvious use of modern research tools, techniques and skills for

building their proficient career. To make them be aware of how to formulate and design the experiments and to work efficiently in a research groups.

Table 4: Present Performance Measures for Research Activities

Sr. Nos.	Name of faculty member	Research Papers	Projects Completed
1.	Dr. Muhammad Azim Malik	4	1(ALP)
2.	Dr. Muhammad Ashraf	5	-----
3.	Dr. Fayyaz-ul-Hassan	7	1 (PSF)
4.	Dr. Zammurad Iqbal Ahmad	4	-----
5.	Dr.Abdul Razzaq	4	1(HEC)
6.	Mr. Irfan Aziz	2	-----
7.	Dr. Muhammad Ansar	5	1(PMAS-AAUR)
8.	Dr. Muhammad Rasheed	6	2(PMAS-AAUR)
9.	Mr. Ghulam Qadir	3	-----
11.	Mr. Mukhtar Ahmad	2	1 (PMAS-AAUR)
12.	Dr. Abdul Manuaf	2	-----
13.	Mr. Safdar Ali	1	-----
Total		45 international as well as national	6

Faculty Satisfaction Regarding the Administrative Services

- The department upholds a percentage 4:1 for the academic (technical) and administrative non-technical staff which fulfils the standard set by HEC.
- Administrative meeting (departmental, university, academic council and syndicates) are attended as and when required.
- Regular disposal of office works is practised without reminder from higher authorities .
- Proper records of the following is maintained;
 - Enrolment
 - Research Reports
 - Entry test
 - Assignments
 - Tour reports
 - Attendance report
 - Evaluation report

Table No: 5 : Degree Requirements

Degree	Pre-requisites
M.Sc. (Hons.)	Academic minimum score of 2.5 CGPA, 45 credit hours comprising 35 credits of course work and 10 credits of research thesis, comprehensive examination and thesis writing.

Major future improvement plans

- Establishment of Crop Seed Production ,Research and Training Centre
- Execution of research projects funded by different donor agencies.
- Further Strengthening of Linkages with National/ International organizations. Participatory research activities.
- Establishment of demonstration plots on farmers fields.

- Arranging faculty trainings in advanced countries to equip them with latest developments and research skills.

CRITERION 2: CURRICULUM DESIGN AND ORGANIZATION

SECTION: 2

Criterion 2: Curriculum Design and organization:

Curriculum design and update is initiated by the faculty members of the Department after the approval of Board of Studies which comprises of senior faculty members and subject specialist who is taken from other faculties or from other Universities or research Institutions. It is headed by the Chairman of the Department. The approved curriculum is then sent to Board of Faculty, headed by the Dean Faculty of Crop and Food Sciences. This Board consists of senior faculty members from all the Departments of the faculty and subject specialists. Finally the curriculum is presented before the Academic Council which is comprised of the Professors, Associate Professors, Faculty Representatives and nominated experts.

Definition of Credit Hour

A student must complete a definite number of credit hours. One credit hour is one theory lecture or two hours practical work per week. One credit hour carries 20 marks. The semester is of 18 weeks.

Degree Plan

M. Sc (Hons.) in Agronomy

The M.Sc (Hons.) degree program consists of 2 academic years / 4 semesters. As a whole a student has to study 35 credit hours with 10 credit hours (research work and thesis writing) consisting of total 45 credit hours. Degrees are awarded after completing course work, one year research work, thesis writing and comprehensive examination are mandatory for the M.Sc (Hons.) degree. For Each course 10% marks are reserved for the assignments, 30% marks are for mid-term examination while 60% marks for final examination as per university rules

Pre-requisites

Academic Requirements:

The process of admission well established and followed as per rules and criteria set by HEC. For this purpose an advertisement is given in the National Newspapers by the Registrar office.

Table 6 : Admission requirements for different academic Programme

Degree	Pre-requisites
M.Sc. (Hons.)	B.Sc. (Hons.) Agriculture in Agronomy with minimum CGPA 2.50 and entry test is compulsory for admission in the degree

Degree Requirements:

Degrees are awarded after completing the required number of credit hours (courses). Minimum Grade Point Average for obtaining the degree is 2.50. To remain on the roll of the university, a student shall be required to maintain the following minimum GPA/CGPA in each semester.

Table 7: Degree Requirements

Degree	Pre-requisites
M.Sc. (Hons.)	Academic minimum score of 2.5 CGPA, 45 credit hours comprising 35 credits of course work and 10 credits of research thesis, comprehensive examination and thesis writing.

Examination Weightage

In course work, student's evaluation is done by mid-term examination, assignments/presentations/quizzes and final examination. A student, who misses the mid-term examination, is not allowed a make-up examination and is awarded zero marks in that examination. In case a student does not appear in the final examination of a course, he shall be

deemed to have failed in that course. In theory, weightage to each component of examination is as prescribed here under:

Mid Examination	30%
Assignments	10%
Final Examination	60%

For practical examination (if applicable) 100% Weightage is given to practical as scored in the final examination. A student is eligible to sit for the examination provided that he/she has attended not less than 75% of the classes in theory and practical, separately. The minimum pass marks for each course are 40 % for B.Sc.

Table 8: Courses vs objectives

Courses	Objectives		
	HRD	Research oriented	Integrated
M .Sc. (Hons.) Agriculture	Highly satisfactory	Satisfactory	satisfactory

Standard 2.1:

Assessment of the Curriculum of Agronomy Department

The Curriculum fits very well and satisfies the interior requirements for the program, as specified by the respective accreditation body. The Curriculum satisfied the general arts and professional and other discipline required for the program according to demands and requirements set by the Higher Education Commission (HEC).

Standard 2.2:

Elements vs courses:

Table 9: Elements vs courses

Elements	Agronomy Courses
Theoretical background	AGRO-702, AGRO-703, AGRO-704, AGRO-705, AGRO-706, AGRO-708, AGRO-709, AGRO-701, AGRO-711, AGRO-712, AGRO-713, AGRO-714, AGRO-715, AGRO-716, AGRO-717
Problem analysis/ Solution Design	AGRO-707 (Field Crop Experimentation)

Standard 2.3:
Credit hours distribution

Table 10: Credit hours distribution

Elements	Credit hours/ semester	Total credit hours	Course Work	Research and thesis
M. Sc. (Hons.) Agriculture	Minimum 12 Maximum 32	45	35	10

Standard 2.4:
Credit hours and HEC requirement

The courses offered by the department meet the minimum criteria as laid down by Higher Education Commission.

Standard 2.5:
Attendance requirement

Attendance required in each course is 75%, below which the student is not allowed to sit in the examination.

Standard 2.6:

Need for IT courses:

Information technology component of the curriculum must be integrated throughout the program. There is deficiency of information technology related courses but some activities and courses in program are useful to give basic training of IT especially of computer programs.

Standard 2.7:**Enhancement of communication skills**

Two seminars included in the course work and presentation of special problem of 1 credit hour in addition to the M.Sc.(Hons.) research activities enhances oral and written communication skills of the students .

CRITERION 3**LABORATORIES AND COMPUTER FACILITIES****Laboratory Facilities:**

Laboratory titles:

1. Allelopathic Research lab
2. General research lab
3. Stress physiology lab
4. Nutrient efficacy lab

Location and Area:

Faculty of crop and food sciences, Ground floor, Agronomy Department

Objectives:

- Laboratories are used for:
- Practical exercise and demonstrations to students in their major courses
- Research work for the master,s students
- Used for implementing the funded projects by the University, HEC, PSF, PARC and other agencies.
- Laboratories are well spacious and adequate and efforts are being made to update these more advanced and sophisticated research in future.

List of instruments:

S/No.	Name of Equipment	Quantity/No.
1.	Heating Drying Cabinet	Three
2.	Water Distillery apparatus	One
3.	Over Head Projector	Two
4.	Computer with Laser Printer	Two
5.	Freezer	One
6.	pH Meter	One

7.	EC Meter	One
8.	Centrifuge 14000 Rpm	One
9.	Top Loading Balance	Two
10.	Vacuum Pump	One
11.	Water Potential Operates	One
12.	Water Bath	One
13.	Spectrophotometer	One
14.	Leaf Area Meter	Two
15.	Growth Chamber	Two
16.	Flame Photometer	One
17.	Analytical Balance	Two
18.	Osmometer	One
19.	Chiller	One
20.	Digestion Block	One
21.	Mechanical shaker	One

Shortcoming in Laboratory facilities:

- For faculty member and Master,s students equipments for growth analysis/physiological parameters are lacking viz. IRGA, chlorophyll meter, moisture monitoring, Neutron probe, tensiometers, water potential measurement devices. etc
- The department lacks lecture rooms so the research labs are being used for classes.
- A green/glass house is direly needed for controlled experiments.

Safety arrangements:

- There is no proper safety arrangement and no security plans are in the case of emergency.
- There is no emergency exit for the lab and classroom.
- No fire extinguishers have been installed in any laboratory.
- No first aid kits/ facilities provided in the laboratory/department.

Standard 3.1:

Laboratory Manuals

Laboratory manuals of each subject are not available. The department has no library at all. However, individual teachers have their books.

Standard 3.2:**Laboratory Personalsfor Maintenance of Laboratory**

Laboratories are maintained by Lab Assistant (01), and Laboratory Attendants(02).

Standard 3.3: Computing Infrastructure and Facilities

Computer facilities are not available to all faculty members and the master,ss students.

SECTION 4**CRITERION 4****STUDENT SUPPORT AND ADVISING**

University organizes support programs and provides information regarding admission, scholarship schemes, etc. Department in its own capacity arranges orientation and guides various cultural activities and solve the student's problems, however currently there is no parent teacher association.

Standard 4.1:**Frequency of courses**

- Courses are taught as per policy of HEC.
- At master,s level course subjects are offered as per scheme of study provided by HEC and approved.
- Courses are offered according to scheme of study.
- Elective courses are offered as per strategy of HEC and the university.
- For M. Sc. (Hons.), a variety of courses are offered according to demand of the profession.

Standard 4.2:**Structure of the courses**

- To ensure effective interaction between students and faculty during course formulation both theoretical and practical aspects are focused.
- Theoretical problems are explained and assignment is also given to the students whereas practical are carried out both in the laboratory as well as in the field
- Courses are structured and decided in the board of study meetings.

- Emphasis is always given for an effective interaction between each section.

Standard 4.3:

Guidance to the Students

- Several steps have been taken to provide guidance to the students such as:
- Students are informed about the program requirement through the office of the head of the department.
- Through the personal communication of the teachers with the students.
- Students can also consult their relevant teachers whenever they face any professional problems.
- In case of some problems, Director, Student Affairs is available who is ready to help the students.
- Student can interact with the teachers in university, whenever they need.
- Realizing the need for exploring job opportunities for the university graduates, Directorate of placement bureau has been established at PMAS-AAUR.

CRITERION 5

PROCESS CONTROL

It includes student admission, registration, faculty recruitment activities which are dealt by various statutory bodies and the university administration.

Standard 5.1:

Program admission criteria

The process of admission is well established and followed as per rules and criteria set by HEC. For this purpose an advertisement is given in the National Newspapers by the Registrar office.

Table 11: Admission requirements

Degree	Pre-requisites
M.Sc. (Hons.)	B.Sc. (Hons.) Agriculture in Agronomy with minimum CGPA 2.50 and entry test is compulsory for admission in the degree

Standard 5.2:**Process of registration**

- The student name, after completion of the admission process, are forwarded to the registrar office for proper registration in the specific program and registration numbers are issued to the students
- Registration is done for one time for each degree but evaluation is done through the result of each semester, if the students fulfill criteria of the university, they are promoted to the next semester.
- In general, the students are registered on merit basis keeping in view the academic and research standards.

Standards 5.3:**Recruiting Process for Faculty**

- Recruitment policy followed the university is recommended by HEC for induction of new faculty is done as per rules:
- Vacant and newly created positions are advertised in the National Newspapers, applications are received by the registrar office and call letters are issued to the short listed candidates on the basis of their experiences, qualifications, publications and other qualities / activities as fixed by the university.
- The candidates are interviewed by the university selection Board. Principal and alternate candidate are selected.
- Selection of candidates is approved by the syndicate for issuing orders to join within a specified period.
- Induction of new candidates depends upon the number of sanctioned posts.
- Standard set by HEC are followed.
- At present, no procedure exists for retaining highly qualified faculty members, however, the revised pay scales of structures is quite attractive.
- HEC also supports appointment of highly qualified members as foreign faculty professors, National Professors and place them in various departments of the university.

Standard 5.4:**Teaching and Delivery of Course Material**

- To help providing high quality teaching, Department periodically revises the curriculum depending upon requirements, innovations and new technology
- With the emergence of new fields, new courses are set and included in the curriculum
- Lecture notes are also prepared by the teachers and given the students.
- Most of the lectures are also supplemented by overheads, slides, pictures.
- All-out efforts are made that the courses and knowledge imparted should meet the objectives and outcomes. The progress is regularly reviewed in the staff meetings.

Standard 5-5:**Completion of Program Requirements**

The controller of examinations announces the date of commencement of examination. After ~20-30 days of the examinations, the controller office notifies the results of the students. The evaluation procedure consists of mid and final examinations, practical formulas, assignments and reports, oral and technical presentations. Candidates who secure 80% or more marks are awarded grade A. Gold medals are awarded to the students who secure highest marks. Degrees are awarded to the students on the annual convocation that is held every year.

Examination Weightage**Grading Policy**

A grade = 80 % and above

B grade = 65-79 %

C grade = 50-64 %

D grade = 40-49 %

F grade = below 40 %

CRITERION 6

FACULTY

Standard 6.1:

Full Time Faculty

Table 12: Faculty qualification

S. No.	Name of faculty member	Designation	Qualification	Name of Country Awarding Highest Degree	Date of Birth	Email address
1.	Dr. Muhammad Azim Malik	Professor	Ph.D.	USA	20-06-1955	drazim61@gmail.com
2.	Dr. Muhammad Ashraf	Professor	Ph.D.	USA	01-09-1952	muhammad.ashraf@uaar.edu.pk drashraf_150@yahoo.com
3.	Dr. Fayyaz-ul-Hassan Sahi	Professor	Ph.D.	UK	15-05-1963	fayyaz.sahi@uaar.edu.pk
4.	Dr. Zammurad Iqbal Ahmed	Associate Professor	Ph.D.	PK	01-05-1960	azammurad@htomail.com
5.	Dr. Abdul Razzaq	Associate Professor	Ph.D.	China	01-08-1957	abdul.razzaq@uaar.edu.pk
6.	Mr. Irfan Aziz	Assistant Professor	M.Sc. (Hons.)	PK		dIrfan.aziz@uaar.edu.pk
7.	Dr. Muhammad Ansar	Assistant Professor	Ph.D.	UK	14-10-1964	Muhammad.ansar@uaar.edu.pk drmatarar@gmail.com

8.	Dr. Muhammad Rasheed	Assistant Professor	Ph.D.	PK	09-10-1962	drasheed786@gmail.com
9.	Dr. Ghulam Qadir	Assistant Professor	Ph.D.	PK	01-12-1968	Qadir@uaar.edu.pk
10.	Dr. Mukhtar Ahmed	Lecturer	M. Sc. (Hons.)	PK	01-10-1979	mukhtarahmad@uaar.edu.pk
11.	Dr. Abdul Manaf	Lecturer	Ph.D.	PK	20-02-1970	munafawan@yahoo.com
12.	Mr. Safdar Ali	Lecturer	M. Sc. (Hons.)	PK	01-10-1974	safdaraliarid@yahoo.com

Table 13. Faculty Distribution by Program Areas in Agronomy

S. No.	Area of Specialization	Faculty members
1.	Integrated Weed Management, Zero-tillage, Allelopathy	Dr. Muhammad Azim Malik, Dr. Muhammad Ashraf
2.	Oilseed Crops, Crop Water Management	Dr. Fayyaz-ul-Hassan, Dr. Ghulam Qadir Dr. Abdul Manaf
3.	Integrated Plant Nutrient Management, Drought stress physiology, NRM & GIS	Dr. Zammurad Iqbal Ahmed, Dr. Muhammad Rasheed Mr Irfan Aziz
4.	Stress Physiology, Genetic Transformation of Crops.	Dr. Abdul Razzaq
5.	Fodder & Forage Production	Dr. Muhammad Ansar Mr. Safdar Ali
6.	Plant Physiology, Crop Growth Modeling and climate change	Mr. Naveed Tahir Mr. Mukhtar Ahmed

List of publications

1. Prof. Dr. Muhammad Ashraf

- i. Aziz, I., M. Ashraf., T. Mahmood And K.R. Islam. 2010. Crop Rotation Impact On Soil Quality. Pak. J. Bot., 43(2): 949-960.
- ii. Saleem, R., Z. I. Ahmed, M. Ashraf, M. Arif, M. A. Malik, M. Munir and M. A. Khan. 2010. Response of maize-legume intercropping system to different fertility sources under rainfed conditions. 27(4). In Press.

2. Prof. Dr. Muhammad Azim Malik

- i. Ansar, M., Z. I. Ahmed, M. A. Malik, M. Nadeem, A. Majeed and B. A. Rischkowsky. 2010. Forage yield and quality potential of winter cereal-vetch mixtures under rainfed conditions. Emir. J. Food Agric. 22 (1): 25-36.
- ii. Saleem, R., Z. I. Ahmed, M. Ashraf, M. Arif, M. A. Malik, M. Munir and M. A. Khan. 2011. Response of maize-legume intercropping system to different fertility sources under rainfed conditions. 27(4). In Press.
- iii. Faisal Z., M. A. Malik, P. Khaliq and M. Rasheed .2008. Rapeseed yield as influenced by fertilizer placement methods and weed control practices under rainfed conditions. Soil and Environ.27 (2):193-201.
- iv. Arshadullah, M., M.A.Malik, M. Rasheed, G. Jilani ,F. Zahoor, and Shoaib Kaleem, 2010. Seasonal and Genotypic Variations Influence the Biomass and Nutritional Ingredients of Cenchrus ciliaris Grass Forage. Internat. J. Agric. Biol. 13(1):120-124.

3. Prof.Dr. Fayyaz-ul-Hassan Sahi

- i. Shuaib Kaleem¹, Fayyaz- ul- Hassan¹, Abdul Razzaq¹, Abdul Manaf and Aamir Saleem. Growth rhythms in sunflower (*Helianthus annuus* L.) in response to environmental disparity. African J. of Biotechnology. 9(15).pp 2242-2251. 2010.

- ii. Aamir Saleem , Fayyaz-ul-Hassan, A. Manaf and M. S. Ahmedani. Germination of *Themeda triandra* (Kangaroo grass) as affected by different environmental conditions and storage periods. *African J. of Biotechnology*. 8(17).pp 4094-4099. 2009.

4. Dr. Zammurad Iqbal Ahmed

- i. Khan, F. S., Z. I. Ahmed, M. Ansar and H. Shah. 2008. Response of mungbean genotype to *Rhizobium* inoculum and varying levels of nitrogen fertilizers. *Pak. J. Agric. Res.* 21 (1-4): 33-44.
- ii. Ahmed, Z. I., M. Ansar, M. Tariq and M. S. Anjum. 2008. Effect of different *Rhizobium* inoculation methods on performance of lentil in Pothowar region. *Int. J. Agri. Biol.* 10 (1): 81-84.
- iii. Zhang, F., Z. L. Jin, M. S. Naeem, Z. I. Ahmed, H. J. Gong, L. Lu, Q. F. Ye and W. J. Zhou. 2009. Spatial and temporal changes in acetolactate synthase activity as affected by new herbicide ZJ0273 in rapeseed, barley and water chickweed. *Pestic. Biochem. Physiol.* 95: 63-71.
- iv. Ahmed, Z. I., M. Ansar, M. Iqbal and N. M. Minhas. 2009. Effect of different planting geometry and wheat straw mulch on performance of wheat under rainfed conditions of Pothowar. *Pak. J. Agric. Res.* 22 (3-4): 112-115.
- v. Ansar, M., Z. I. Ahmed, M. A. Malik, M. Nadeem, A. Majeed and B. A. Rischkowsky. 2010. Forage yield and quality potential of winter cereal-vetch mixtures under rainfed conditions. *Emir. J. Food Agric.* 22 (1): 25-36.
- vi. Jin, Z.L. F. Zhang, Z.I. Ahmed, M. Rasheed, M.S. Naeem, Q.F. Ye, W.J. Zhou. 2010. Differential morphological and physiological responses of two oilseed Brassica species to a new herbicide ZJ0273 used in rapeseed fields
Pestic. Biochem. Physiol. In Press, Corrected Proof, Available online 18 April
- vii. Ullah, N., L. Xu, Z. I. Ahmed, M. Rasheed, G. Jilani, M. S. Naeem, W. Shen and W. Zhou. 2011. Ultraviolet-C mediated physiological and ultrastructural alteration in *Juncus effuses* L. shoots. *Acta Physiologiae Plantarum*: 33(2) 481-488.
- viii. Saleem, R., Z. I. Ahmed, M. Ashraf, M. Arif, M. A. Malik, M. Munir and M. A. Khan. 2011. Response of maize-legume intercropping system to different fertility sources under rainfed conditions. 27(4). In Press.

- ix. Anwar, A., M. Ansar, Z. I. Ahmed, M. Nadeem, G. Ahmed, S. Khan and A. Hussain. 2009. Performance of non-traditional winter legumes with oat for forage yield and soil health under rainfed conditions. *J. Agri. Res.* (Submitted).

5. **Dr. Muhammad Ansar**

- i. Khan, F. S., Z. I. Ahmed, M. Ansar and H. Shah. 2008. Response of mungbean genotype to *Rhizobium* inoculum and varying levels of nitrogen fertilizers. *Pak. J. Agric. Res.* 21 (1-4): 33-44.
- ii. Ahmed, Z. I., M. Ansar, M. Tariq and M. S. Anjum. 2008. Effect of different *Rhizobium* inoculation methods on performance of lentil in Pothowar region. *Int. J. Agri. Biol.* 10 (1): 81-84.
- iii. Ahmed, Z. I., M. Ansar, M. Iqbal and N. M. Minhas. 2009. Effect of different planting geometry and wheat straw mulch on performance of wheat under rainfed conditions of Pothowar. *Pak. J. Agric. Res.* 22 (3-4): 112-115.
- iv. Ansar, M., Z. I. Ahmed, M. A. Malik, M. Nadeem, A. Majeed and B. A. Rischkowsky. 2010. Forage yield and quality potential of winter cereal-vetch mixtures under rainfed conditions. *Emir. J. Food Agric.* 22 (1): 25-36.
- v. Anwar, A., M. Ansar, Z. I. Ahmed, M. Nadeem, G. Ahmed, S. Khan and A. Hussain. 2009. Performance of non-traditional winter legumes with oat for forage yield and soil health under rainfed conditions. *J. Agri. Res.* (Submitted).
- vi. Kaleem, S., M. Ansar, M.A. Ali, A. Sher, G. Muhammad and M. Rasheed. 2009. Effect of Phosphorus on the yield and yield components of wheat variety-Inqulab-91, under rainfed conditions. *Sarhad J. Agric.* 25(1): 19-24.

6. **Dr. Abdul Razzaq**

- i. Shuaib Kaleem¹, Fayyaz- ul- Hassan¹, Abdul Razzaq, Abdul Manaf and Aamir Saleem. Growth rhythms in sunflower (*Helianthus annuus* L.) in response to environmental disparity. *African J. of Biotechnology*. 9(15).pp 2242-2251. 2010.

7. **Dr. Ghulam Qadir**

- i. Qadir. G., M.A. Cheema, F.U. Hassan, M. Ashraf and M.A. Wahid. 2008. “ Relationship of heat units accumulation and fatty acid composition in sunflower. *Pak J. Agri. Sci.* 44(1-2), 24-29.

- ii. Hassan.F., A.Manaf,G.Qadir and Shahzad.M.A.Basra. 2007. Effect of sulphur on seed yield,oil, protein and Glucosinolates of Canola Cultivars. *Int.J.Agri&Biology*.9 (3)504-508.
- iii. Hassan.F.,S.A.Hakeem, A.Manaf, G.Qadir and S.Ahmad.2007. Response of sunflower(*Helianthus annuus* L.) to sulphur and seasonal variations. *Int.J.Agri&Biology*.9(3)499-503.
- iv. Ahmad.N., F.U.Hassan and G.Qadir.2008. Effect of subsurface soil compaction and improvement measures on soil properties. *Int.J.Agri&Biology*.9 (3)509-513.
- v. Gufraz. M., G. Kukab,G.Qadir,S.Mahmood and A.Khanum.2007.

8. Dr. Irfan Aziz

- i. AZIZ, I., M. ASHRAF., T. MAHMOOD AND K.R. ISLAM. 2010. Crop Rotation Impact On Soil Quality. *Pak. J. Bot.*, 43(2): 949-960.

Standard 6.2:

Effective Programs for Faculty Development.

- Professional training and availability of adequate research and academic facilities are provided to the faculty members according to the available resources.
- Currently one faculty member is abroad for post-Doc as sponsored by the HEC.
- Incentives in the form of allowances to theses supervisors have been implemented lately to promote high standard research.
- Existing facilities include mainly internet access, which is available through networking system in addition to library facility with latest books also available.
- Effective programs for faculty development have been introduced.

Standard 6.3:

Faculty member motivation

- Time to time provision of enthusiasm to the young faculty by the senior faculty members.

CRITERION 7

INSTITUTIONAL FACILITIES

Standard 7.1:

Infrastructure

- The department must have the infrastructure to support new trends in learning and research.
- Department has established new laboratory for research related to crop physiology and working on developing new more laboratories.
- Equipments are not sufficient to meet the current requirement of research.

Lack of Institutional Facilities

- Insufficient facilities regarding the infrastructure to support new trends in learning or prevalent.
- Department library must be developed to provide support to graduate and post graduate students.
- Computer facilities should be provided to the staff and postgraduate students.
- Offices must be adequate to enable faculty to carry out their responsibility.

Standard 7.2:

Library Facilities

The university Central Library has very limited number of books, journals and periodicals. It's a small library in term of space and facilities with no catalogue systems. It does not meet the standards of a university library. Department itself does not have a library.

Standard 7.3:

Class Room and Faculty Offices

No class room available. Research laboratories are being used for teaching purpose also, which affect the working of research students. Two to three teachers are sharing rooms.

Unavailability of most modern and related books and internet affects the quality of teaching. Common room for students is also missing.

CRITERION 8

INSTITUTIONAL SUPPORT

- Institutional support is highly appreciated.
- The upgradation of existing teaching cadre also provided and added advantage in detaining the present faculty.
- Sufficient secretarial support, technical staff and office equipment.

Lack of Institutional support

- Due to unavailability of class rooms, classes are taken in the laboratories.
- Financial support should be raised and allocate funds for postgraduate research students.

Standard 8.1:

Support and financial resources

The department has limited funds and Individual research grants for students and faculty are mainly supporting the departmental research activities. There is a dire need for increasing the financial resources allocated to the department to establish a library, laboratories and computer facilities.

Standard 8.2:

High quality Research scholars

The intake is once in a year. A strict merit policy applies and University test/GRE/NTS is preferred.

Standard 8.3:

Financial resources

Total budget of the department of agronomy for the financial years 2008-09 and 2009-10 was Rs. 24000 and 202000 respectively which does not fulfill the departmental needs particularly for the purchase of equipment, chemicals etc.

List of Enrolment for last few years

Around 18-20 students get admission in M.Sc. (Hons.) Agriculture in. Agronomy every year.

SUMMARY

Agronomy is a diverse profession that encompasses all aspects of crop production and soil management. The Mission of Agronomy department is to equip and impart training to M.Sc. (Hons.) students for high-quality education for their esteemed and productive living. The department started its M.Sc. (Hons.) degree program in 1996. The Department has well structured academic programme of M.Sc. (Hons) Agriculture. The courses aim to develop and strengthen students capacity to grasp principles and practices Agronomy based on scientific principles. The strong academics enables them to specialize in one or more areas reflecting the student's particular interest. Specialization in Agronomy have input considerate of the current concepts of crop and edaphic practices. In addition they have sufficient specialist knowledge in selected areas to allow them to pursue a research degree in crop science. M.Sc. (Hons.) students acquire scientific background as well as having gained experience in problem solving and have developed the communication, numerical and computer skills required for a wide range of careers.

In order to evaluate whether department is fulfilling its objectives or not, surveys on various aspects such as course evaluation, teacher evaluation, alumni survey, research/graduating students surveys and faculty survey etc. have been conducted by the departmental members of the program team. The data were collected on prearranged proformas and later on analyzed and presented in the form of graphs and tables. The data revealed that students are satisfied with the subject approach of faculty members, their fairness in examination, and level of knowledge. However, the partial availability of lecture rooms and poor laboratories infrastructure were reported as major hurdles. Course evaluation survey showed that students are satisfied with workload and value of knowledge provided to them. According to research student survey, accessibility of internet and access to various scientific journals is limited. Similarly, the department has limited budget for research purposes which cannot maintain laboratories and research activities. According to employer survey, students are good at job but they have very basic knowledge of information technology and computer skills.

Faculty members are pleased with their salaries but they have severe concerns about the workload as most of them are agreed that they have very less time for themselves.

The faculty course review report tinted the need to divide the M.Sc. (Hons) Agriculture class into several section so that the teachers and students have conducive environment for teaching and learning. Some courses were rated as excellent but lengthy. Overall, the program of study was rated very good. The internship programme was reported as highly effective as majority of the internees were satisfied from the programme. However, the problems related to accommodation and research facilities and poor stipend were reported.

The Department has highly qualified and experienced faculty mostly having post doctorate research experience from universities of worldwide renown. The faculty has produced 45 publications during the last five years in journals of national and international repute. Moreover, five research projects were completed during the reported period; lack of infrastructure to transfer the recommended practices and technology to farmers. Access to latest literature and availability of updated review is not up to the mark. There is a need for short foreign trainings of young faculty members.

The performance of the department may be further improved considering;

- Split class rooms are required to facilitate the post-graduate students to continue laboratory works without breaks.
- There is a shortage of personal computers and unavailability of Internet which creates many impediments. Improvement in this area will also speed up the level of research and teaching,
- Departmental Laboratories need intensification through new equipments.
- There is also need to recover mix of research and teaching proportion to fabricate professionally sound graduates,
- At present there are no planning for professional training of the staff. Such trainings will improve their abilities for attractive the quality of research and teaching. It would be worthy to point out here that proper man at proper place is not being practiced.
- The budget allocated to the department hardly meets the requirements of the research,

- At present there is no departmental library. Allocation of sufficient funds for this purpose will be helpful in subscribing reputed journals and purchase of books that will ultimately boost quality of learning, teaching and research.

Annexure-1

List of Courses offered by the Department of Agronomy for M.Sc. (Hons.) Agronomy

S. No	Course No.	Title	Credit Hours
1.	AGR-701	Advanced field crop production	4(3-2)
2.	AGR-702	Advanced agronomy	4(3-2)
3.	AGR-703	Dryland agro-management	3(3-0)
4.	AGR-704	Crop environment	3(2-2)
5.	AGR-705	Sustainable agriculture	3(3-0)
6.	AGR-706	Weed management	4(3-2)
7.	AGR-707	Field crop experimentation	4(3-2)
8.	AGR-708	Advanced seed technology	4(3-2)
9.	AGR-709	Herbicides in crop production	4(3-2)
10.	AGR-710	Plant nutrition	3(2-2)
11.	AGR-711	Recent advances in agronomy	3(3-0)
12.	AGR-712	Plant water relations	3(2-2)
13.	AGR-713	Seed physiology	3(3-0)
14.	AGR-714	Agro-environment conservation	3(3-0)
15.	AGR-715	Seed production and management	3(2-2)
16.	AGR-716	Resources ecology of agriculture	3(3-0)
17.	AGR-717	Integrated agriculture	3(3-0)
18.	AGR-719	Special problem	1(1-0)
19.	AGR-720-I	Seminar	1(1-0)
20.	AGR-720-II	Seminar	1(1-0)

Annexure-2

Proforma 9 FACULTY RESUME



Name	Dr. Muhammad Azim Malik																								
Personal	Name of Department : Pir Mehr Ali Shah Arid Agriculture University, Rawalpindi Name of Person: Muhammad Azim Malik Nationality: Pakistani Date & Place of Birth: June 20, 1955, Mainwali, Pakistan Position in Department: Professor of Agronomy EDUCATION <table border="1"> <thead> <tr> <th>Name of Institution</th><th>Degree/Diploma</th><th>Year</th><th>Division</th></tr> </thead> <tbody> <tr> <td>Govt. High School Piplan Distt. Mianwali</td><td>Matriculation</td><td>1971</td><td>1st</td></tr> <tr> <td>University of Agriculture, Faisalabad</td><td>F. Sc.</td><td>1973</td><td>2nd</td></tr> <tr> <td>University of Agriculture, Faisalabad</td><td>B. Sc. (Hons.)</td><td>1976</td><td>1st</td></tr> <tr> <td>University of Agriculture, Faisalabad</td><td>M. Sc. (Hons.) Agronomy</td><td>1979</td><td>1st</td></tr> <tr> <td>University of Wyoming, Laramie, USA</td><td>Ph. D. Agronomy</td><td>1990</td><td>CGPA (3.54)</td></tr> </tbody> </table>	Name of Institution	Degree/Diploma	Year	Division	Govt. High School Piplan Distt. Mianwali	Matriculation	1971	1 st	University of Agriculture, Faisalabad	F. Sc.	1973	2 nd	University of Agriculture, Faisalabad	B. Sc. (Hons.)	1976	1 st	University of Agriculture, Faisalabad	M. Sc. (Hons.) Agronomy	1979	1 st	University of Wyoming, Laramie, USA	Ph. D. Agronomy	1990	CGPA (3.54)
Name of Institution	Degree/Diploma	Year	Division																						
Govt. High School Piplan Distt. Mianwali	Matriculation	1971	1 st																						
University of Agriculture, Faisalabad	F. Sc.	1973	2 nd																						
University of Agriculture, Faisalabad	B. Sc. (Hons.)	1976	1 st																						
University of Agriculture, Faisalabad	M. Sc. (Hons.) Agronomy	1979	1 st																						
University of Wyoming, Laramie, USA	Ph. D. Agronomy	1990	CGPA (3.54)																						
Experience	EXPERIENCE Name of Employing Agency: University of Arid Agriculture, Rawalpindi																								

	Pakistan
Title of Position:	Professor of Agronomy
Location of Assignment:	PMAS-AAUR
Period of Assignment:	16-08-2003 to to-date
EXPERIENCE	
Name of Employing Agency:	Agriculture Department
Title of Position:	Assistant Professor
Location of Assignment:	Barani Agriculture College, Rawalpindi
Period of Assignment:	06-07-1985 to 04-04-1994
EXPERIENCE	
Name of Employing Agency :	Agriculture Department
Title of Position :	Farm Manager
Location of Assignment:	Barani Agriculture College, Rawalpindi
Period of Assignment:	24-02-1982 to 05-07-1985
EXPERIENCE	
Name of Employing Agency:	Agriculture Department, Punjab
Title of Position:	Assistant Agronomist
Location of Assignment:	Punjab Agriculture Research Institute, Faisalabad
Period of Assignment:	05-05-1979 to 11-30-1981

Honor and Awards	1. Served for 3 years as member on National Curriculum Review Committee of Crop Physiology, University of Agriculture, Faisalabad 2. Served for 3 years as member on Finance & Planning Committee, University of Arid Agriculture, Rawalpindi 3. Serving since 1996 as member of academic council, University of Arid Agriculture, Rawalpindi 4. Serving since 1994 as member on several postgraduate supervisory committees of different disciplines in University of Arid Agriculture, Rawalpindi 5. Serving as Senior Tutor since April 1st, 2003 in University of Arid Agriculture, Rawalpindi
Publications	Ansar, M., Z. I. Ahmed, M. A. Malik, M. Nadeem, A. Majeed and B. A. Rischkowsky. 2010. Forage yield and quality potential of winter cereal-vetch mixtures under rainfed conditions. Emir. J. Food Agric. 22 (1): 25-36. Saleem, R., Z. I. Ahmed, M. Ashraf, M. Arif, M. A. Malik, M. Munir and M. A. Khan. 2010. Response of maize-legume intercropping system to different fertility sources under rainfed conditions. 27(4). In Press. Faisal Z., M. A. Malik, P. Khaliq and M. Rasheed .2008. Rapeseed yield as influenced by fertilizer placement methods and weed control practices under rainfed conditions. Soil and Environ.27 (2):193-201. Arshadullah, M., M.A.Malik, M. Rasheed, G. Jilani ,F. Zahoor, and Shoaib Kaleem, 2010. Seasonal and Genotypic Variations Influence the Biomass and Nutritional Ingredients of Cenchrus ciliaris Grass Forage. Internat. J. Agric. Biol. 13(1):120-124.

Name	Dr. Muhammad Ashraf
Personal	Father's Name Faiz Ahmad Date of Birth 01-09-1952 Age 56 years NIC# 37405-0330488-3 Teaching & Research Experience 27 years Address Pir Mehr Ali Shah Arid Agriculture University, Rawalpindi Academic Qualification Uni. of Agric. Faisalabad 1974 Agronomy B. Sc. (Hons.) Uni. of Agric. Faisalabad 1976 Agronomy M.Sc. (Hons.) Oregon State Univ.USA 1992 Agronomy Ph. D.
Experience	Assistant Research Officer Agric. Department 1981-82 Sugarcane agronomy Govt. of Punjab Lecturer Agronomy Barani Agric. College 1982-86 Teaching Agronomy Rawalpindi Assistant Professor Barani Agric. College 1986-98 Teaching Agronomy/Univ. of Arid Agriculture and supervision of Rawalpindi thesis research Associate Professor Univ. of Arid Agriculture, 1998-2007 Teaching agronomy supervision of thesis research Professor PMAS-AAUR 28-4-2007 to-date Teaching Agronomy and supervision of thesis research
Honor and Awards	First National Training Course on Biological Nitrogen Fixation, October 1982 NARC, Islamabad National In-Service Training Course on "Manpower Planning & Employment" Pakistan Manpower Institute Ministry of Labor, Manpower & Overseas Pakistani (Manpower Division) Islamabad, 7th August, 1986

	Intensive Course of 214 Hours in English for Academic Purpose. Academy for Education Development United States Agency for International Development Islamabad March 5th, 1987. A Short Course on Computer Application for agricultural and Natural Resource Management Department of Rangeland Resources. Oregon State University, Corvallis USA. March 25th 1991. A Seminar on Participatory Irrigation Management. Economic Development Institute of the World Bank and Ministry of Water and Power, Govt. of Pakistan, October 2-6, 1994. A Basic Course on BASICS OF COMPUTER, DOS, WINDOWS'95 and MS WORD September 23, 1997. UIMS. Univ. of Arid Agriculture, Rawalpindi International Workshop on "Intensive farming & integrated resource management: Traditional & Non-traditional Approaches" Organized by Univ. of Arid Agriculture, Rawalpindi. April 28-30, 2004
Memberships	Membership Professional Societies Agronomy Society of America, Crop Science of America and Soil Science Society of America Wisconsin, USA (1988-1992) Soil Science Society of Pakistan (1994-onward). Pakistan Association for the Advancement of Science. 73-N Model Town, Lahore(1994-1996) Membership Academic Bodies Member National Curriculum Revision Committee of Agronomy, HEC, Islamabad. Subject matter Specialist. Punjab Service Commission, Lahore. Member Academic Council, Univ. of Arid Agriculture, Rawalpindi Member Finance and Planning Committee, Univ. of Arid Agriculture, Rawalpindi (2003- onwards). Member Synopsis and Thesis Scrutiny Committee, Univ. of Arid Agriculture, Rawalpindi(1992-1996). Consulting Editor, Sharhad Journal of Agriculture, N.W.F.P. Agric. Univ., Peshawar Consulting Editor, Pakistan Journal of Arid Agriculture, Univ. of Arid Agriculture, Rawalpindi External Examiner, Agricultural College, Quetta, Univ. of Quetta External Examiner, Univ. College of Agriculture B.Z. Univ. Multan

Graduate Students	NAME OF STUDENT	TITLE	Completion Date
Postdocs	Amir Aman Ullah	Effect of potassium on growth, development and yield of maize	1993-95
Undergraduate Students	Safdar Ali	Effect of nitrogen on growth, development and yield of maize (Zea mays)	1993-95
Honour Students	Farooq Ahmad	Performance of soybean varieties under Islamabad conditions	1995-97
	Abid Mahmood	Productive efficiency of of soybean intercropping in spring sunflower	1995-97
	Ijaz-ul-Hassan	Association of Rhizobium japonicum strains with soybean genotypes	1995-97
	S. Mujahid H. Qaisar	Effect of magnesium on growth, development, yield and yield components of maize (Zea mays)	1994-97
	Hafiz M. Bakhsh	Effect of Rhizobium strains on nodulation and yield of groundnut genotypes	1998-2000
	Iftikhar Ahmad Chaudhry	Interaction of Rhizobium strains and varieties of lentils	1998-2000
	Aftab Afzal	Effect of phosphorus solubilizing microorganisms on phosphorus uptake, yield and yield traits of wheat (Triticum aestivum L.)	1999-2001
	Zafar Iqbal	Allelopathic effects of sorghum on suppression of weeds in rainfed wheat (Triticum aestivum L.)	2000-2002
	Naveed Shahzad	Effect of phosphorus on growth, development and yield of maize (Zea mays)	2001-2003
	Muhammad Akhlaq	Weed suppression by water extract of sorghum plant parts in wheat	2001-2003
	Shahbaz Naeem	Sunflower and sorghum water extracts for weed control in wheat	2001-2003
	Ishaq Zafar	Yield attributes of mungbean in response to inoculum strains	2002-2004
	Mehr Ali	Yield and yield components of groundnut under different rainfed conditions	2003-2005
	Ahsan Munir	Effect of nitrogen supply on growth, development and yield of wheat	2004-2007
	Yasir Habib	Allelopathic effects of brassica and barley herbage water extract on wheat weeds suppression under rainfed conditions	2008

Fahad Karim Awan	Allelopathic effects of sorghum, sunflower and brassica for weed control in wheat	2008
Zahid Iqbal Khan	Influence of concentrated sorghum water extract alone and in combination with herbicide for weed control in rainfed wheat	2009
Irfan Sharif	Evaluation of concentrated sunflower water extract alone and with low doses of herbicides for weed control in barley	2009
M. Sajid Mahmood	“”Effect of Barley Residue Water Extract in Combination with Low Doses of Herbicide on Weed Control and Yield of Mungbean	2010
PH.D STUDENTS THESIS SUPERVISED		
Shuiab Kaleem 2010 Physio-morphic expression of sunflower in response to environmental variations.		
Naeem Ahmad 2006 Response of wheat to subsurface soil compaction and improvement Strategies.		
Abdul Manaf 2006 Phenotypic plasticity of Brassica in response to environment and sulphur nutrition		
M.Sc(Hons) Students thesis supervised		
Samiullah Khan,	2000. Heat units requirement of Sunflower.	
Rana Ashfaq Ahmad,	2001 Seasonal variation in sunflower.	
Abid Hussain,	2001 Performance of sunflower in relation to root depth.	
Attiq-ur-Rehman	2003 Comparison of wheat cultivars for water use efficiency and qualitative traits under rainfed conditions.	
Shahzad A. Hakium 2005 Response of sunflower to Sulphur and seasonal variations.		
Asim Irfan	2005 Feasibility of intercropping Mungbean in Sunflower under Rainfed conditions.	
Ahmad Sher	2006 Performance stability of Canola cultivars under different	

	Agro-ecological regions of Pothwar. Muhammad Tahir 2007 Integrated use of herbicide and tillage methods for moisture conservation and subsequent canola yield. Yasir Khurshid 2008 Comparative evaluation of some local and exotic safflower genotypes Muhammad Arif 2009 Response of <i>Sinapis alba</i> to Agro-management techniques. Muhammad Farooq 2009 Effects of Agro-management Techniques on <i>Camelina sativa</i>. Mubashir Ali 2009 Response of <i>Linola</i> to Agro-management techniques.
Publications	Aziz, I., M. Ashraf., T. Mahmood And K.R. Islam. 2010. Crop Rotation Impact On Soil Quality. Pak. J. Bot., 43(2): 949-960. Saleem, R., Z. I. Ahmed, M. Ashraf, M. Arif, M. A. Malik, M. Munir and M. A. Khan. 2010. Response of maize-legume intercropping system to different fertility sources under reinfed conditions. 27(4). In Press.



Name	Prof. Dr. Fayyaz Ul Hassan																					
Personal	Professor of Agronomy Phone Office: +92-51-9062217, Cell: 0300-9514597 Department of Agronomy Fax Office: +92-51-9290160 University of Arid Agriculture, e-mail: fayyaz.sahi@uaar.edu.pk Rawalpindi drsahi63@gmail.com Phone Residence: +92-51-4848187																					
	Name Fayyaz-ul-Hassan Date of Birth 15-05-1963 Father's Name Abdul Latif Permanent Address Village & Post Office TOOR, Teh. & Distt. JHELMUM																					
	EDUCATION <table border="1"> <thead> <tr> <th>University/Board</th><th>Degree</th><th>Year</th></tr> </thead> <tbody> <tr> <td>Curtin University of Technology, Perth, Australia</td><td>Post Doc</td><td>2007</td></tr> <tr> <td>University of Wales Aberystwyth (UK)</td><td>PhD</td><td>1995</td></tr> <tr> <td>University of Agriculture, Faisalabad (Pakistan)</td><td>M.Sc(Hons)</td><td>1988</td></tr> <tr> <td>University of Agriculture, Faisalabad (Pakistan)</td><td>B.Sc(Hons)</td><td>1986</td></tr> <tr> <td>Board of Intermediate & Secondary Education, Mirpur</td><td>F.Sc(Pre-medical)</td><td>1981</td></tr> <tr> <td>Board of Intermediate & Secondary Education, Rawalpindi</td><td>Matric(Science)</td><td>1979</td></tr> </tbody> </table>	University/Board	Degree	Year	Curtin University of Technology, Perth, Australia	Post Doc	2007	University of Wales Aberystwyth (UK)	PhD	1995	University of Agriculture, Faisalabad (Pakistan)	M.Sc(Hons)	1988	University of Agriculture, Faisalabad (Pakistan)	B.Sc(Hons)	1986	Board of Intermediate & Secondary Education, Mirpur	F.Sc(Pre-medical)	1981	Board of Intermediate & Secondary Education, Rawalpindi	Matric(Science)	1979
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Board of Intermediate & Secondary Education, Mirpur	F.Sc(Pre-medical)	1981																				
Board of Intermediate & Secondary Education, Rawalpindi	Matric(Science)	1979																				
Experience	As Professor 23-06-07 to date Main Duties: • Teaching postgraduate and undergraduate courses. • Supervision of PhD and M.Sc student's research. • Planning & Management of University Research Farm. • Planning & Execution of cropping pattern/ scheme at Research Farm. • Writing, planning and execution of research projects. • Financial and operational management of research projects & Farm. As Associate Professor 29-05-04 to date 22-06-2007 Main Duties: • Teaching postgraduate and undergraduate courses. • Supervision of PhD and M.Sc student's research.																					

	• Writing, planning and execution of research projects. • Data recording, writing and compilation of annual reports of research projects. • Financial and operational management of projects. • Advisory service when and where needed. As Assistant Professor: From 22-1-1998 to 29-05-04 Main Duties: • Teaching postgraduate and undergraduate courses. • Supervision of student's research. • Planning, execution, data collection of research projects. • Management and maintenance of department laboratories. • Coordination amongst departments for timetable/date sheet etc. • Checking/review of student's thesis at University level. • As Assistant Agronomist (Water Management): From 15-1-1992 to 22-1-1998. Main Duties: • Supervision and guidance of field staff related to agronomic development activities. • Preparation of PC-1 of development schemes related to soil and water conservation. • Training of field staff and farmers for farm designing, layout and management. • Community mobilization and organization for water management activities. • Demonstration and layout of sprinkler and drip irrigation systems. • Preparation and presentation of monthly and annual reports. • Farm advisory service when and where needed. As Agricultural Officer (Water Management): From 16-11-1989 to 15-1-1992. Main Duties: • Supervision and guidance of field staff related to field activities. • Preparation of monthly, semi annual and annual reports. • Training of field staff and farmers for farm designing, layout and management. • Farmers mobilization and organization to benefit from development projects. • Office supervision and management. Assistant Research Officer: From 1-1-1989 to 15-11-1989. Main Duties: • Planning, layout and execution of research experiments.
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	• Data recording/collection, analysis and writing results/reports. • Farm management including resource mobilization and utilization. • Farm inventory preparation/compilation. MANAGEMENT EXPERIENCE Assistant Warden, From July, 1993 to September, 1995 Cwrt Mawr student's Hall of Residence, University of Wales Aberystwyth (UK). Duties Performed: • Resolution of student's day to day problems. • Maintenance of law and order in the Hall of residence. • Intercultural and interfaith harmony amongst students. • Financial and operational management of the Hall.
Honor and Awards	Ministry of Education Scholarship for PhD 1992. Overseas Research Students Award 1994-95(Awarded by CVCP UK). Endeavour Pakistan Research Award by Govt. of Australia, 2007
Supervised Students	PH.D STUDENTS THESIS SUPERVISED Naeem Ahmad 2006 Response of wheat to subsurface soil compaction and improvement strategies. Abdul Manaf 2006 Phenotypic plasticity of Brassica in response to environment and sulphur nutrition M.SC(HONS) STUDENTS THESIS SUPERVISED Samiullah Khan, 2000. Heat units requirement of Sunflower. Rana Ashfaq Ahmad, 2001. Seasonal variation in sunflower. Abid Hussain, 2001. Performance of sunflower in relation to root depth. Attiq-ur-rehman 2003 Comparison of wheat cultivars for water use efficiency and qualitative traits under rainfed conditions. Shahzad A. Hakium 2005 Response of sunflower to Sulphur and seasonal variations. Asim Irfan 2005 Feasibility of intercropping Mungbean in Sunflower Under Rainfed conditions. Ahmad Sher 2006 Performance stability of Canola cultivars under

	Muhammad Tahir 2007	different Agro- ecological regions of Pothwar. Integrated use of herbicide and tillage methods for moisture conservation and subsequent canola yield.
Service Activity	Teaching and Research.	

Brief Statement of Research Interest	• Crop production and Management. • Oilseed crop production and enhancement. • Alternate crop production. • Soil conservation and crop production • Water management and conservation. • Rural and agricultural development. • Dry land agriculture development and management. • Rain water harvesting
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Publications	Shuaib Kaleem, Fayyaz- ul- Hassan, Abdul Razzaq, Abdul Manaf and Aamir Saleem 2010: Growth rhythms in sunflower (<i>Helianthus annuus</i> L.) in response to environmental disparity. African J. of Biotechnology. 9(15); 2242-2251. Aamir Saleem , Fayyaz-ul-Hassan, A. Manaf and M. S. Ahmedani. 2009, Germination of <i>Themeda triandra</i> (Kangaroo grass) as affected by different environmental conditions and storage periods. African J. of Biotechnology. 8(17); 4094-4099.
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Dr. Zammurad Iqbal Ahmed

Personal	Father's Name:	Ghulam Ahmed	
	Date of Birth :	1 st May 1960	
	Gender :	Male	
	Nationality :	Pakistani	
	Marital Status :	Married	
	Present Address :	Associate Professor University of Arid Agriculture, Rawalpindi, Pakistan Phone : Office 051-9062256 Cell 0333-5101247 E-mail : azammurad@hotmail.com	
	Residential Address :	House # 11, University Colony # 2 Opposite Divisional Public School, Shamsabad Rawalpindi, Pakistan	
ACADEMIC & PROFESSIONAL QUALIFICATION	Permanent Address :	Kakrala, Tehsil Sohawah, District Jhelum Pakistan	
	Examination Passed	Year of Passing	Major Subjects
	Matriculation	1976	Science Group
	F. Sc.	1979	Science Group
	B. Sc. (Hons.) and	1984	Agronomy(Production Field Management)
	M. Sc. (Hons.) and	1986	Agronomy(Production Field Management)
	Ph. D. and	1996	Agronomy(Production Field Management)
	MBA Management	2004	Human Resource

	Post Doc China COMPUTER TRAINING Pakistan Computer Bureau Training Islamabad	2008 FROM 02.04.2001	TO 01.05.2001	Zhejiang University TOPIC IT
LANGUAGES PROFICIENCY	LANGUAGE SPEAKING English Urdu Punjabi	READING B A B	WRITING A A B	A B A
EXPERIENCE	I have a variety of experience in teaching, research and extension services. I have served in BS-17 in Government of the Punjab from June 15, 1986 to December 28, 1986 I have been serving as Lecturer since 1986 in Barani Agricultural College, Rawalpindi. Currently I am working in University of Arid Agriculture, Rawalpindi as Associate Professor. Here my main duties are teaching and research both at undergraduate and graduate levels. I have published a number of research articles in journals of repute. I am member of Academic Council and Faculty Board of Studies. I have also the charge of Head of the Department of Library for the last ten years. I had been Hall Warden for about two years and member of Central Purchase Committee of the University. I am also member of National Curriculum Revision Committee of Higher Education Commission. I am serving as an external reviewer of the research projects for Pakistan Council for Science and Technology and Pakistan Agricultural Research Council and Foreign/External Examiner for Ph. D. thesis, Annamalai University, Tamil Nadu,			

	India. I am also at the panel of various Universities as external examiner for thesis evaluation. Many research journals have my name on their panel as referee pertaining to research articles.
LIST OF PUBLICATIONS	1. Khan, F. S., Z. I. Ahmed, M. Ansar and H. Shah. 2008. Response of mungbean genotype to Rhizobium inoculum and varying levels of nitrogen fertilizers. Pak. J. Agric. Res. 21 (1-4): 33-44. 2. Ahmed, Z. I., M. Ansar, M. Tariq and M. S. Anjum. 2008. Effect of different Rhizobium inoculation methods on performance of lentil in Pothowar region. Int. J. Agri. Biol. 10 (1): 81-84. 3. Zhang, F., Z. L. Jin, M. S. Naeem, Z. I. Ahmed, H. J. Gong, L. Lu, Q. F. Ye and W. J. Zhou. 2009. Spatial and temporal changes in acetolactate synthase activity as affected by new herbicide ZJ0273 in rapeseed, barley and water chickweed. Pestic. Biochem. Physiol.. 95: 63-71. 4. Ahmed, Z. I., M. Ansar, M. Iqbal and N. M. Minhas. 2009. Effect of different planting geometry and wheat straw mulch on performance of wheat under rainfed conditions of Pothowar. Pak. J. Agric. Res. 22 (3-4): 112-115. 5. Ansar, M., Z. I. Ahmed, M. A. Malik, M. Nadeem, A. Majeed and B. A. Rischkowsky. 2010. Forage yield and quality potential of winter cereal-vetch mixtures under rainfed conditions. Emir. J. Food Agric. 22 (1): 25-36. 6. Jin, Z.L.F. Zhang, Z.I. Ahmed, M. Rasheed, M.S. Naeem, Q.F. Ye, W.J. Zhou. 2010. Differential morphological and physiological responses of two oilseed Brassica species to a new herbicide ZJ0273 used in rapeseed fields Pestic. Biochem. Physiol. In Press, Corrected Proof, Available online 18 April 7. Anwar, A., M. Ansar, Z. I. Ahmed, M. Nadeem, G. Ahmed, S. Khan and A. Hussain. 2009. Performance of non-traditional winter legumes with oat for forage yield and soil health under rainfed conditions. J. Agri. Res. (Submitted).

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Name		Dr. Muhammad Ansar		
Personal	1.	Name	Dr. Muhammad Ansar	
	2.	Father's name	Ghulam Rasool	
	3.	Date of birth	14.10.1964	
	4.	Domicile	Mandi Bha-ud-din, Punjab, Pakistan	
	5.	Religion	Islam	
	6.	Sex:	Male	
	7.	Marital status	Married	
	8.	N.I.C #	34403-1914662-1	
	9.	Date of entry into Govt. service.	1 st September 1991.	
	10.	Tele: Department Office: Mobile:	051-9290757, 0321-5563037	
	11.	Email:	<drmansar@yahoo.com>	
	12.	Academic Qualification:		
	S. No.	Name of examination	Board / University	Division
	1.	PhD	University of Wales, Aberystwyth, U.K.	-
	2.	M.Sc (Hons) Agri.	University of Agriculture, Faisalabad, Pakistan	1 st
	3.	B.Sc (Hons) Agri.	University of Arid Agri. Rawalpindi, Pakistan	1 st
	4.	F. Sc	Gujranwala Board	1 st
	5.	Matriculation	Rawalpindi Board	1 st
Experience	1.	Assistant Professor (Agronomy) March, 2005 to Todate PMAS-Arid Agriculture University, Rawalpindi.		
	2.	Assistant Research Officer. (Agronomy) October, 2003 to March, 2005 Fodder Research Institute, Sargodha.		
	3.	Assistant Research Officer (Agronomy) 26.04.1997 to 23.10.2003 Soil & Water Conservation Research Institute, Chakwal		
	4.	Assistant Research Officer (Agronomy) 01.9.1991 to 25.04.1997 Barani Agricultural Research Institute, Chakwal		
Memberships	1-	Life membership of Soil Science Society of Pakistan		
	2-	Life membership of Weed Science society of Pakistan		
	3-	Subject Matter Specialist of Sarhad Journal of Agriculture		
	4-	Member of Journal of Arid Agriculture, UAAR		
	5-	Member of Journal of Agronomy Society		

	6-Member of Journal of Phytopathology Society of Pakistan			
Supervised Students	S.No	Name of the student	Topic	Year
	1.	Altaf Hussain 99-arid-238	Genotypic Differences in Nitrogen Use Efficiency in Wheat Under Rainfed Conditions	2008
	2.	Ramzan Anser 05-arid-1176	Comparative Study of Deep and Shallow Tillage Practices for Moisture Conservation and Subsequent Wheat Yield	2007
	3.	Muhammad Nadeem 03-arid-64	Evaluation of Winter Cereal-Legume Mixtures as Livestock Feed	2009
	4.	Yasir Mahmood 03-arid-187	Evaluation of Kharif Cereal-Legume Mixtures as Livestock Feed	2009
	5.	Rao Sabir Sattar 04-arid-130	Evaluation of Oat Vetch Mixture for Forage Yield and Quality Under Rainfed Conditions	2010
	6.	Fahid Sheraz 08-arid-736	Comparison of Winter Fodder Crops For Yield and Quality Under Rainfed Condition of Pothowar	2010
Service Activity	Teaching and Research.			

Publications	Khan, F. S., Z. I. Ahmed, M. Ansar and H. Shah. 2008. Response of mungbean genotype to Rhizobium inoculum and varying levels of nitrogen fertilizers. Pak. J. Agric. Res. 21 (1-4): 33-44. Ahmed, Z. I., M. Ansar, M. Tariq and M. S. Anjum. 2008. Effect of different Rhizobium inoculation methods on performance of lentil in Pothowar region. Int. J. Agri. Biol. 10 (1): 81-84. Ahmed, Z. I., M. Ansar, M. Iqbal and N. M. Minhas. 2009. Effect of different planting geometry and wheat straw mulch on performance of wheat under rainfed conditions of Pothowar. Pak. J. Agric. Res. 22 (3-4): 112-115. Ansar, M., Z. I. Ahmed, M. A. Malik, M. Nadeem, A. Majeed and B. A. Rischkowsky. 2010. Forage yield and quality potential of winter cereal-vetch mixtures under rainfed conditions. Emir. J. Food Agric. 22 (1): 25-36. Anwar, A., M. Ansar, Z. I. Ahmed, M. Nadeem, G. Ahmed, S. Khan and A. Hussain. 2009. Performance of non-traditional winter legumes with oat for forage yield and soil health under rainfed conditions. J. Agri. Res. (Submitted).
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	Kaleem, S., M. Ansar, M.A. Ali,A. Sher,G. Muhammad and M. Rasheed .2009. Effect of Phosphorus on the yield and yield components of wheat variety-Inqulab-91 ,under rainfed conditions. Sarhad J. Agric. 25(1): 19-24
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Name	Irfan Aziz												
Personal	Residence: House No.SA870/D Street No 2 Sadiqabad, Rawalpindi, Pakistan. Phone: +92-51-4845917 Mobil 03005336016 ACADEMIC QUALIFICATIONS. <table border="1"> <thead> <tr> <th>DEGREE</th> <th>INSTITUTE</th> <th>YEAR</th> </tr> </thead> <tbody> <tr> <td>Professional Master</td> <td>ITC, The Netherlands</td> <td>2000</td> </tr> <tr> <td>M.SC.(Hons.)Agri.</td> <td>University of Agri.Faisalabad</td> <td>1991</td> </tr> <tr> <td>B.SC.(Hons.)Agri.</td> <td>University of Agri.Faisalabad</td> <td>1988</td> </tr> </tbody> </table> MASTER DEGREE IN GEO-INFORMATION SCIENCES AND EARTH OBSERVATION, THE NETHERLANDS. I did my Professional Master (Specialization Sustainable Agriculture) in Geo-Information Sciences and Earth Observations from International Institute for Aerospace Survey And earth Sciences, Enschede, The Netherlands, during 1999-2000. Professional Courses: My Master degree courses included the following courses. • Natural Resources Management. • Remote sensing. • Maps and Geographic Databases. • Data Acquisition. • Data Analysis and Modelling. • Land use survey techniques, Land use impact analysis. • Surveying and mapping land use, prepar land use data sets. • Agro-Ecological Zoning (AEZ) land Evaluation and modeling. • Land use planning (LUP). • Land cover/use map of Twente district (field work). COMPUTER APPLICATION/SOFTWARE USED: I have good knowledge and experience of following computer packages. • ILIWI 2.2 (GIS Database, Analysis, Visualization/Presentation). • Windisp (Handling of NOAA Data/NDVI). • Eecrop. (Crops Ecological Requirements).	DEGREE	INSTITUTE	YEAR	Professional Master	ITC, The Netherlands	2000	M.SC.(Hons.)Agri.	University of Agri.Faisalabad	1991	B.SC.(Hons.)Agri.	University of Agri.Faisalabad	1988
DEGREE	INSTITUTE	YEAR											
Professional Master	ITC, The Netherlands	2000											
M.SC.(Hons.)Agri.	University of Agri.Faisalabad	1991											
B.SC.(Hons.)Agri.	University of Agri.Faisalabad	1988											

	• Cropwat. (Crop water Requirement). • PS123. (Simulation Crop growth Modelling). • Manitab. (Data Analysis). • SPSS (Data Analysis). • Arc view (GIS operations). • Windows NT (Report writing, presentations). • MS.Excel (Data entering /Database/Analysis). • Internet surfing (Extracting Informations).
Experience	Lecturer of Agronomy 15-8-1997 to 06-01-2005 University of Arid Agriculture Rawalpindi Pakistan. Assistant professor Agronomy, 07-01-2005 to date. University of Arid Agriculture Rawalpindi Pakistan EXPERIENCE RESEARCH • Land cover and land use mapping. • Change detection in land use/cover. • Accuracy assessment of the map. • Advanced Remote Sensing and GIS techniques for monitoring and early warning in agriculture. • Estimation of biomass production in relation to food demand of Caprivi Region. (Individual Final Assignment of Professional Master programme). • Effect of irrigation frequencies and fertilizer application on yield and quality of Maize. (M.Sc.Hons.Agri Thesis). • Quality Analysis of Cotton crop seeds. Research publication: • Comparative study of different weed management techniques in wheat (<i>Triticum aestivum</i>) under rainfed conditions. Pak.j .arid, 4(1-2): 19-23, 2001. • Feasibility of Intercropping Lentil and lathyrus in wheat under rainfed condition. Pak. j. arid, 5(1) 13-16, 2002. FIELD WORK: • Collection of land cover/used Data of Twente District, The Netherlands. • Collection of field Data for accuracy assessment. Sweden. • Use of Global Position system.
Honor and Awards	• National convention of Scientists and Engineers 27 may 1999, at Islamabad. • Media war and Role of PTV on 14 June 2001 at UAAR. • Atomic Energy for Economic Development on 14 Nov 2001 at UAAR. • Corporate Agriculture: Issues and Option on 27 July 2001 at UAAR. • All Pakistan Food Science conference on 12 Jan 2001 at UAAR.

	• Tenth Meeting of OIC Ministerial standing Committee on Scientific and Technological Cooperation (COMSTECH) 18 Feb. 2002 at Islamabad. • 3rd International Science Conference on 26 Sep 2002 at UAAR. IN-SERVICE TRAININGS: • In-service Training workshop in Weed Science for Teachers of Agricultural Universities/colleges of the country on 1 June 2001 at NWFP Agricultural University, Peshawar. • In –service Training course in Designing Crop Experiment of Agricultural universities/colleges of the country on 6-11 Jan 2003 at NWFP Agricultural University, Peshawar. • In-service Training course in Conducting Crop Experiments and Experimental Techniques universities/colleges of the country on 13- 18 Jan 2003 at NWFP Agricultural University, Peshawar. Application of Satellite Remote Sensing/GIS Techniques for land Resources Mapping 5-9 Jan 2004 at SUPARCO Islamabad.		
Publication	Aziz, I., M. Ashraf., T. Mahmood And K.R. Islam. 2010. Crop Rotation Impact On S Quality. Pak. J. Bot., 43(2): 949-960.		
Supervised Students	S.No	Name of the student	Topic
	1.	Muhammad Naeem 07-arid-283	Influence of Planting Pattern and Weed Control Methods on the Growth and Yield of Maize
	2.	Adeel Mustafa 03-arid-171	Effect of Tillage Frequencies and Earthworm on Selected Physiochemical Soil Parameters and Yield of Mungbean
	3.	Ayesha Javed 04-arid-189	Impact of No. Tillage and Conventional Tillage on Selected Soil Physiochemical Parameters and Yield of Sunflower
Service Activity	Teaching and Research.		

Selected Professional Presentations

INTERNATIONAL PRESENTATIONS.

I have given Presentations on

- OS Digital products, applications using OS DATA AND OS data on the Internet.
- Information about the Digital National Framework.
- Data collection in the field using PRISM.
at Geography Department. University of Southampton,
Southampton, United Kingdom.
- A course theoretical material on the assessment of Map accuracy and GPS, field Data collection techniques and analysis and result reporting. Department of Physical Geography, University of Lund, Sweden.

- Institute for Geo-information,
Munster University, Germany.
- Con'terra, information technology mbh,
Munster, Germany.

Proforma 9

Name	Dr. Ghulam Qadir																																		
Personal	Department of Agronomy																																		
	PMAS, Arid Agriculture University, Rawalpindi, Pakistan																																		
	Ph: 92-51-4426318,0333 5101301																																		
	Email:qadirakaira@hotmail.com																																		
	Father name: Malik Umar Hayat																																		
	Date of birth: December 1, 1968																																		
	Place of birth: Jhang (Pakistan)																																		
	Nationality: Pakistani																																		
	Occupation: Teaching & Research																																		
	Teaching and research experience: 15 years																																		
Mailing address: H.no.20 colony no.1. PMAS, Arid Agriculture, University Murree Road Rawalpindi.pakistan. Contact: 03335101301, 0514426318																																			
Academic Qualification:																																			
<table border="1"> <thead> <tr> <th>Degree/ certificate</th> <th>year</th> <th>Discipline</th> <th>Division</th> <th>Institution</th> </tr> </thead> <tbody> <tr> <td>Ph.D</td> <td>2006</td> <td>Agronomy</td> <td>Ist</td> <td>University of Arid Agriculture Rawalpindi</td> </tr> <tr> <td colspan="5">Thesis: Morpho. Genetic expression of sunflower under varied Temperature and Moisture regimes.</td> </tr> <tr> <td>M.Sc. (Hons) Agriculture</td> <td>1993</td> <td>Agronomy</td> <td>Ist</td> <td>University of Faisalabad.</td> </tr> <tr> <td colspan="5">Thesis: Effect of water stress on growth and yield Performance of four cultivars of wheat (Triticum aestivum L.)</td> </tr> <tr> <td>B.Sc. (Hons) Agri</td> <td>1990</td> <td>Agriculture</td> <td>Ist</td> <td>University of</td> </tr> </tbody> </table>						Degree/ certificate	year	Discipline	Division	Institution	Ph.D	2006	Agronomy	Ist	University of Arid Agriculture Rawalpindi	Thesis: Morpho. Genetic expression of sunflower under varied Temperature and Moisture regimes.					M.Sc. (Hons) Agriculture	1993	Agronomy	Ist	University of Faisalabad.	Thesis: Effect of water stress on growth and yield Performance of four cultivars of wheat (Triticum aestivum L.)					B.Sc. (Hons) Agri	1990	Agriculture	Ist	University of
Degree/ certificate	year	Discipline	Division	Institution																															
Ph.D	2006	Agronomy	Ist	University of Arid Agriculture Rawalpindi																															
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M.Sc. (Hons) Agriculture	1993	Agronomy	Ist	University of Faisalabad.																															
Thesis: Effect of water stress on growth and yield Performance of four cultivars of wheat (Triticum aestivum L.)																																			
B.Sc. (Hons) Agri	1990	Agriculture	Ist	University of																															

	Agriculture, Faisalabad. F.Sc. 1985 Pre-Medical 2nd B I S E, Sargodha Matric. 1983 Science 1st B I S E, Sargodha
Experience	1. Pakistan agricultural Research council, Islamabad Position: science officer (BPS 17) Duration: 07.9.1993 to 28.4.1998 Nature of work: conducted research trials in the rainfed area at the research center as well as at farmer's fields. I remained involved in agronomic research of cereals crops to check the adaptability of different crops at the different environmental conditions regarding temperature and moisture requirements. I also remained involved to the transfer of improved production technology of cereals crops through research and demonstration trails to the farming community in the rainfed area of the country. During this period I also worked to study the microorganism's effects on the crops and got the experience to prepare the microorganisms colonies in the applied microbiology laboratory. I worked as a liaison officer to coordinate the research activities between the universities, Research organizations and farmers. 2. University of Arid Agriculture, Rawalpindi Position: Lecturer in Agronomy (BPS 17) Duration: 28.4.1998 to 14-10-2006 Position: Assistant professor (BPS 18) Duration: 14-10-2006 to date Nature of work: i) Teach general as well as major courses to graduate and post graduate students and supervise research activities. Courses taught • Crop production(winter and summer crops)

	• Crop physiology • Seed production technology • Arid zone agriculture • Crop ecology ii) Conducted research trails with special reference to rainfed problems. I have conducted specialization studies on fatty acid composition, physiology of crops and drought tolerance in sunflower hybrids. I also have specialized in resource conservation technologies to mitigate the water crisis/drought causing economic loss to the agriculture in resource poor countries like Pakistan. I have basic knowledge in dry land agro management to combat the drought in economic profile. I have experience to work on different instruments used to measure soil profile helpful to look into the moisture regime to understand soil moisture behavior and its effect on crop growth and development. Experience in national resource management, Sustainable agriculture and community development.
Honor and Awards	Won the indigenous PhD Scholarship sponsored by Ministry of Science & Technology under the supervision of HEC in the first batch in open competition in 2001.
Memberships	Memberships of professional societies. • Pakistan Botanical Society • Pakistan Agricultural Scientist Forum • Pakistan Agronomy Society • Pakistan Weed Science Society • Society For The Advancement of The Science

Graduate Students	- Two M.Sc (Hons) student completed his M.Sc. (Hons) Agriculture under my supervision and one Ph.D student is writing up his thesis. Member of supervisory committee of two PhD and five M.Sc students. - I was the member of 15 student's supervisory committee who completed their M.Sc. - Rasheed Mustafa 01-arid-581 2008 - Azra Khan 08-arid-733 2010 - Nasir Mehmood Cheema 02-arid-162, Ph.D., 2009
Postdocs	
Undergraduate Students	
Honour Students	
Service Activity	Teaching and Research.

Publications	a) Qadir. G., M.A.Cheema, F.U.Hassan.M.Ashraf and M.A.Wahid. 2007. “Relationship of heat units accumulation and fatty acid composition in sunflower.PakJ.Agr.Sci.44(1-2),24-29. b) Hassan.F., A.Manaf,G.Qadir and Shahzad.M.A.Basra. 2007. Effect of sulphur on seed yield,oil, protein and Glucosinolates of Canola Cultivars. Int.J.Agr&Biology.9 (3)504-508. c) Hassan.F.,S.A.Hakeem, A.Manaf, G.Qadir and S.Ahmad.2007. Response of sunflower(<i>Helianthus annuus</i> L.) to sulphur and seasonal variations. Int.J.Agr&Biology.9(3)499-503. d) Ahmad.N., F.U.Hassan and G.Qadir.2007. Effect of subsurface soil compaction and improvement measures on soil properties. Int.J.Agr&Biology.9 (3)509-513. e) Gufraz. M., G. Kukab,G.Qadir,S.Mahmood and A.Khanum.2007. Phytochemical constituents of <i>Berberis lyceum</i> Royle and <i>Justica adhotada</i> Vasica. J.of the chemical society of Pakistan.
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	f) Gulfraz, M., Qadir G. Fatima N, Parveen Z. 2007. Anti Hyperglycaemic Effects of Berberis Lyceum Royle in Alloxan induced Diabetic Rats. J. Diabetologia Croatica. Canada.36-3, 49-54. 1.
Research Grants and Contracts.	Research projects: I remained involved in the completion of the following projects and Final report. 1. Seed production and productivity enhancement of sorghum and millet crops on farmer's field. (Productivity enhancement project) 2. Status of sorghum crop in the farming system of rainfed areas of northern Punjab 3. Transfer of improved production technology of cereals crops through research trails to the farming community in the rainfed area. 4. National uniform yield trails at different research stations throughout the country. Project submitted: I am co-PI in a project funded by the agriculture linkage program (PARC) Title: phenotypic plasticity of safflower in response to environment and integrated nutrient management.