Social work is a growing profession which helps the individual, groups and communities to solve their problems by applying its professional skills and techniques. The dynamic world of today demands social work intervention in various fields. This chapter introduces the scope, characteristics, objectives, principles and methods of social work.

Values and Attitudes

After completing this unit, the learner:

- Develops respect towards social work profession.
- Expresses empathy towards fellow beings.
- Imbibes helping mentality in life.
- Develops professional approach towards psycho-social problems.
## UNIT FRAME

<table>
<thead>
<tr>
<th>Concepts/ Ideas</th>
<th>Process/Activity with assessment</th>
<th>Learning outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 Psycho-Social Problems</td>
<td>Case discussion through brain storming and prepare discussion note.</td>
<td>Categorises psycho-social problems</td>
</tr>
<tr>
<td>1.2 Social Work as a problem solving approach</td>
<td>General discussion through probing questions and prepare discussion note.</td>
<td>Identifies social work as a problem solving profession</td>
</tr>
<tr>
<td>1.3 Misconceptions about social work</td>
<td>Role play and general discussion and prepare discussion note.</td>
<td>Clarifies various misconceptions related to social work</td>
</tr>
<tr>
<td>1.4 Social Work scope, characteristics, objectives</td>
<td>General discussion through case presentation and prepare discussion note.</td>
<td>Examines the scope, characteristics and objectives of social work</td>
</tr>
<tr>
<td>1.4 Social Work scope, characteristics, objectives</td>
<td>General discussion through probing questions and prepare discussion note.</td>
<td>Recognises the principles of social work</td>
</tr>
<tr>
<td>1.4 Social Work scope, characteristics, objectives</td>
<td>General discussion and flow chart preparation and diagram preparation.</td>
<td>Differentiates the methods of social work</td>
</tr>
<tr>
<td>1.5 Social Work as a profession</td>
<td>General discussion through brain storming and prepare discussion note.</td>
<td>Lists the professional characteristics of social work</td>
</tr>
<tr>
<td>1.6 Skills and qualities of a social worker</td>
<td>Interview with professional social worker and prepare questionnaire and report.</td>
<td>Identifies the skills and qualities of a social worker</td>
</tr>
</tbody>
</table>
**UNIT ANALYSIS**

**Key Concept 1.1 : Psycho-Social Problems**

**Suggested Activity: Case Discussion and Brain Storming**

Teacher facilitates the session by introducing the below case (or the case given in the beginning of the chapter)

*Rindu, a brilliant plus one student, looks very gloomy in the classroom recently and she hardly communicates with her classmates. She always complains of headache and other physical discomforts. Her performance in the terminal exam was very poor,...

*Her class teacher discussed this matter with Rindu and she disclosed the following*

...Alcoholic father... quarrel between parents... financial problem...

Teacher asks the students to list out the problems of Rindu.

**Discussion Points:**

- What are the problems faced by Rindu?
- How does it affect her?
- Have you faced any similar problems in your life?

Like Rindu, many of us face problems in our day to day life. Can you list out some of them? Teacher lists out the responses of the students and explains that the individual problems can be physical, psychological and social.

Can you classify the above problems into these category?

<table>
<thead>
<tr>
<th>Physical</th>
<th>Psychological</th>
<th>Social</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The teacher asks the students to reflect on the classification made by them. *(self assessment)*

Teacher asks the students to compare their classifications with others based on the below checklist.
Checklist for Peer Assessment

<table>
<thead>
<tr>
<th>Attributes</th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>S4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understanding the concept</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correct categorisation of problems</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A excellent  B Good  C Average  D Room for improvement

Consolidation Points

- People face numerous problems in their day to day life.
- The problems may be physical, psychological and social.
- Psycho-social problems - problems that affect the individual psychologically and socially.
- Problems can also be classified as affecting individual, group or community.

1.2 Key Concept: Social Work as a Problem Solving Profession

Suggested Activity: Probing Questions and Discussion

Teacher asks students to review Rindu’s case again and asks following questions

- Can Rindu solve these problems by herself?
- If not, how can she solve the above problems?

Teacher groups the responses in terms of self managed/professional help.

Consolidation Points

- Limitations of family/social support mechanism
- Need for systematic scientific and professional approach.

1.3 Key Concept: Misconceptions about Social Work

Suggested Activity: Role Play and General Discussion

Teacher prepares some paper slips by using the pictures given in the text book. Students are divided into groups and asked to take lot and perform the role play.
Discussion points

- What are the themes of each role play?
- How is it different from the other?
- Do you think these activities are scientific?

Teacher helps the students to clarify the misconceptions regarding social work.

Consolidation points

- Social work is not charity, philanthropic work, social service or religious activity.
- Differentiate social work from social service, charity, sramadaan etc.

1.4 Key Concept : Social Work- Scope and Objectives

Sub Concept: Definition, Scope, Characteristics and Objectives of Social Work

Suggested Activity : General Discussion through Case Presentation

For introducing the topic, teacher can present the following case:

A differently abled person frequently approaches Ramesh for help and he always gives this person food and clothes. One day Ramesh’s son asked his father why the poor man always come for help. He replied that it is our duty to serve the poor and needy. Such help will surely give us ‘Punya’ and ‘Moksha’. The son asked why can’t we send him to the home for the disabled? The next day when the differently abled came for begging, Ramesh asked him to join the home for the disabled. But he did not like the institutional life. Ramesh’s son discussed this matter with his friend, and took him to the professional social worker.

The professional social worker after studying his personal familial and disability details conducted a series of case work sessions to develop self esteem and a need for standing on his own feet. He was sent to a social welfare agency which provides help for the disabled. He was trained in umbrella making. The social worker mobilized fund for him to start an umbrella making unit. He started to earn his livelihood by himself. Thereafter, he never resorted to begging.

Based on the case, teacher asks the following questions:

- In the above case, what are the different types of help and support given?
- Which sort of intervention provides more appropriate solution to the above problem?
What are the features of help facilitated by the social worker? 
What do you think about social work? 
Which are the other areas where social work intervention is necessary?

Consolidation Points

- Importance and scope of social work is increasing in the present society
- Social work intervention takes place in different agencies.
- Social work has certain unique characteristics and objectives.

Sub Concept: Principles of Social Work

Suggested Activity: General Discussion

The teacher initiates a discussion based on the following points

Discussion Points

- What are the rules and regulations we follow in our school for smooth functioning?
- Relevance of such guidelines/principles.
- What are the guidelines to be followed by a social worker while dealing with a client?

Consolidation Points

- Principles are guidelines for action
- Social work makes use principles like individualization, acceptance, self determination etc.
- Observing the principles is very important in professional social work practice.

Sub Topic: Methods of Social Work:

Suggested Activity: General Discussion and Preparation of Diagram

The teacher starts the discussion, presenting individual, group and community problems and elicit the ways and means to solve such problems.
Teacher introduces different methods of social work and its classification. Students are asked to prepare a diagram classifying the methods.

Consolidation Points

- Methods of social work – primary (direct service to the client) and secondary (may be direct or indirect service)
- Social work methods have another classification - Micro, Mezzo and Macro approaches.

1.5 Key Concept: Social Work as a Profession

Suggested Activity: General Discussion through Brain Storming

Teacher asks the students to identify various professions they know and initiates a discussion on the following points.

Discussion Points

- Why some jobs are considered as professions while others are not?
- What are the features of a profession?
- What are the characteristics of social work as a profession?

Consolidation Points

- A profession is based on specialized educational training, purpose, values, authority, knowledge, skills and remuneration
- Social work has the characteristics of a profession.

1.6 Key Concept: Skills and Qualities of a Social Worker.

Suggested Activity: Interview a Professional Social Worker

Teacher divides the whole class into six groups and each group is asked to prepare a list of questions (skills and qualities) to interview a professional social worker.

Each group presents questions for interview. Afterwards each student is asked to refine their questions by comparing with others based on the checklist.
**Checklist for Peer Assessment**

<table>
<thead>
<tr>
<th>Attributes</th>
<th>Excellent</th>
<th>good</th>
<th>Average</th>
<th>poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conceptual clarity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Question frame</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comprehensiveness</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Teacher arranges an interactive session with a professional social worker. After the interactive session, students list out the skills and qualities necessary for practicing social work.

During the whole process of questionnaire preparation and interactive session with the professional social worker, teachers observe and evaluate students and identify merits and shortcomings if any by using a check list.

**Check list for Teacher Assessment**

<table>
<thead>
<tr>
<th>Attributes</th>
<th>St 1</th>
<th>St 2</th>
<th>St 3</th>
<th>St4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participation in Discussion</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Questioning Skill</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time Management</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concept Clarity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Consolidation Points**

- Skills: Communication, Leadership, Observation, Analytical and diagnostic skill, Resource mobilization.
- Qualities: self and social awareness, decisiveness, empathy, positive attitude, emotional maturity, self confidence.

**Items for Continuous Evaluation**

*a. Process Assessment*

- Case discussion on psycho-social problems
- Table analysis on psycho-social problems
- Role play on misconception of social work
- Case presentation on scope and objective of social work
- Group discussion on methods of social work
- Preparation of diagram on methods of social work
- Preparation of question items to interview a professional social worker
- Interview with a professional social worker
b. Portfolio Assessment

- Discussion note on psycho-social problems
- Table Analysis report on psycho-social problem
- Review note on misconceptions about social work
- Case analysis report on scope and objectives of social work
- Discussion note and diagram on methods of social work
- Interview report on skills and qualities of a social worker

c. Unit Assessment

- Unit test
- Preparation of questions and writing answers
- Open book assessment
- Oral test

Sample TE Items

1. List out various problems we encounter in our day to day lives. Classify them as physical, mental and social.

2. ‘There are some problems which affects our mental and social functioning’. Justify with suitable examples.

3. Problems which affect the psychological and social functioning are termed as ...
   a) Physical  b) Social  c) Psycho-social  d) Psychological

4. During a meeting, the PTA President referred to politicians as social workers. Do you agree with this statement? Substantiate your response by dispelling such misconceptions regarding social work.

5. Sramadaan and charity work are not social work. Justify.

6. Define social work, in your own words and list out the characteristics.

7. Describe the characteristics of social work.

8. List out the objectives of professional social work.

9. Evaluate the need for principles in the practice of social work as a profession.
10. Match the following.

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Individualization</td>
<td>a Mutual recognition, shared responsibility and respect</td>
<td>i Choosing a career from variety of options</td>
</tr>
<tr>
<td>2</td>
<td>Self-determination</td>
<td>b Help to perform social roles effectively</td>
<td>ii Uniqueness of individual</td>
</tr>
<tr>
<td>3</td>
<td>Confidentiality</td>
<td>c Consider the client with all his limitations</td>
<td>iii Rapport</td>
</tr>
<tr>
<td>4</td>
<td>Acceptance</td>
<td>d Consider individual difference of client</td>
<td>iv Non disclosure of illegal relationship status</td>
</tr>
<tr>
<td>5</td>
<td>Social functioning</td>
<td>e Keeping the Secrecy of information</td>
<td>v Unconditional welcome to the client</td>
</tr>
<tr>
<td>6</td>
<td>Meaningful relationship</td>
<td>Freedom to take decision of their own choice</td>
<td>vi Avoid role conflict</td>
</tr>
</tbody>
</table>

11. The principle of individualization is closely related to ......

(biased attitude , uniqueness, social roles, self respect)

12. Draw a diagram showing the methods of social work.

13. Distinguish between primary and secondary methods of social work.

14. Identify any three issues which can be addressed by social action.

15. Examine the role of social worker as a social welfare administrator.

16. Bring out the characteristics that qualifies social work as a profession

17. Draw a chart illustrating the skills necessary for a social worker.

18. List down the various qualities of a social worker.
Social work is a profession that deals with various problems and issues in a scientific and systematic manner. It is comparatively a new profession which empowers individual, groups and communities. It has its root in charity and developed into a full fledged profession which addresses the issues and challenges of modern life. In this chapter, we deal with concepts and disciplines related to social work and major landmarks in its historical development.

Values and Attitudes

After completing this unit, the learner:

• Develops helping mentality
• Concerns the welfare of others
• Empathizes with the poor and marginalized.
## Concepts/ Ideas

<table>
<thead>
<tr>
<th>2.1 Concepts related to Social Work</th>
<th>Process/Activity with assessment</th>
<th>Learning outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Social Service</strong></td>
<td>General discussion based on probing questions and prepare discussion note</td>
<td>Differentiates basic concepts related to social work</td>
</tr>
<tr>
<td><strong>Social Welfare</strong></td>
<td>Case presentation and news analysis on items related to social welfare and prepare report</td>
<td></td>
</tr>
<tr>
<td><strong>Social Reform</strong></td>
<td>Library reference and general discussion, and prepare discussion note</td>
<td></td>
</tr>
<tr>
<td><strong>Social Security</strong></td>
<td>Case presentation and general discussion and prepare discussion note</td>
<td></td>
</tr>
<tr>
<td><strong>Social Justice</strong></td>
<td>Picture analysis and collage preparation</td>
<td></td>
</tr>
<tr>
<td><strong>Social Health</strong></td>
<td>General discussion and prepare discussion note</td>
<td></td>
</tr>
<tr>
<td><strong>Social Legislation</strong></td>
<td>General discussion, probing questions and prepare discussion note</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2.2 Historical Development of Social Work</th>
<th></th>
<th>Examine the evolution of social work in different countries</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>UK</strong></td>
<td>Library work, Quiz and time line analysis</td>
<td></td>
</tr>
<tr>
<td><strong>USA</strong></td>
<td>Prepare Library note, time line</td>
<td></td>
</tr>
<tr>
<td><strong>INDIA</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2.3 Disciplines Related to Social Work</th>
<th>Team teaching and Venn diagram</th>
<th>Evaluate the contribution of various disciplines to social work.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Prepare venn diagram</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
UNIT ANALYSIS

2.1 Key Concept: Concepts Related to Social Work

Sub Concept: Social Service

Suggested Activity: General Discussion Based on Probing Questions

Teacher asks the students the following probing questions leading to general discussion

Discussion Points

➢ Have you ever helped anyone?
➢ Share your experience in helping a person in distress.
➢ Do you need any training to do that?
➢ Do you need any training to help an old man cross the road?

Consolidation Points

• Social service provides an immediate relief to the needy, but the help is temporary in nature.
• No training is required to practice social service.
• Professional social work is entirely different from social service.

Sub topic: Social Welfare

Suggested Activity: Case Presentation and News Analysis

Teacher introduces the case given in the text book. Teacher divides the class into six groups and each group is given 5 newspapers and asks them to identify similar items. Teacher initiates the discussion through some probing questions based on the news items.

Discussion Points

➢ Identify the type of activity seen in the news items.
➢ What are the features of such activity?
➢ Can you point out similar type of activity from your locality?

Consolidation Points

➢ Social welfare is the organised system of social services.
➢ It help individuals and groups to attain satisfying standards of life and health
➢ Social worker facilitates linkage between social welfare schemes and their clients.
### Sub Topic: Social Reform

#### Suggested Activity: Library Reference and General Discussion

Teacher shows the pictures of some eminent social reformers and asks them to identify the leaders and their contributions. Teacher asks them to collect information of the above with the help of library book and ICT.

Note: Teacher can use the picture showing the practice of ‘Sati’

#### Discussion Points

- Identify the personalities depicted in the picture.
- Can you identify their contributions?

#### Consolidation Points

- Social Reform is a deliberate attempt to change social attitudes, social values and social institutions.
- Persuasion and public education are strategies to bring about social reform.

### Sub topic: Social Security

#### Suggested Activity: Case Presentation and General Discussion

See the following instances

- Government declared Rs one lakh to flood victims
- Ramu met with an accident and he got Rs. 5 lakh as accident claim from LIC
- Madhavi got old age pension from Social Justice department.

Teacher initiates a general discussion based on certain probing questions.

#### Discussion Points

- Why do people get such assistance/support?
- What are the benefits of such schemes?
- Do you know of any similar programs that protect the people against exigencies in life?

#### Consolidation Points

- Social security provides assurance against exigencies and help to deal with crisis.
- Social security is provided in the form social assistance and social insurance.
**Sub Topic: Social Justice**

*Suggested Activity: Picture Analysis and Collage Preparation*

Teacher initiates a general discussion on the picture showing the miserable condition of a boy who is compelled to work in his childhood while his friends joyfully go to school (text book). Teacher asks the students to collect the pictures related to injustice.

**Discussion Points**
- What justice is denied here in this picture?
- Can you identify similar instances?

**Consolidation Points**
- Social justice entails fair treatment of all in every field.
- Social justice demands equal opportunity and access to resource.
- Social work has an important role in ensuring social justice.

**Sub Topic: Social Health**

*Suggested Activity: General Discussion*

Teacher initiates a general discussion on the importance of interpersonal relations in society.

**Discussion Points**
- What is the Importance of social relationship in one’s life?
- What is the role of social interaction in socialization?

**Consolidation Points**
- Importance of relationship and social interaction in promoting health—both physical and mental.

**Sub Topic: Social Legislation**

*Suggested Activity: General Discussion Based on Probing Questions*

Teacher initiates the discussion with the help of some probing questions.

**Discussion Points**
- Are you familiar with the problem of dowry?
- Can you list out some other evils in our society?
- How can we prevent such social evils?
Consolidation Points

• Social legislation is framing of formal rules to control or regulate the society.

• Conscientization is used as a means for collective decision against social evils which help to formulate legislation.

2.2 Key Concepts: Historical Development of Social Work

Sub Topic: Historical Development of Social Work in UK, USA & India

Suggested Activity: Library Work, Time Line Preparation and Quiz

Teacher divides the class into 6 groups and each group is asked to collect information regarding the history of social work in UK, USA and India through library reference and ICT.

Students in groups are asked to prepare question items to conduct quiz competition. Teacher standardizes the questions.

Teacher pairs the group into three and each group competes with each other by asking quiz questions and points are awarded. (Peer assessment)

Teacher asks the students to prepare a time line showing the development of social work into a profession in UK, USA and India.

Consolidation Points

• UK – the evolution of social work in the UK passed through the following periods
  • AD 1200-1500
  • AD 1501-1600
  • AD 1600-1800
  • AD 1800-1900
  • AD 1900 onwards

• USA - the development of social work of USA has the following phases
  • The colonial period
  • The civil war and industrial revolutions
  • Industrialization- the human side
  • Social work seeking professional characteristics
  • Highly professionalized discipline

• Social Work in India: history of social work in India is related to
  • Social reforms in ancient period, medieval and modern period
• Contributions of organizations and individuals
• Evolution of professional social work

2.3 Key Concepts: Disciplines Related to Social Work

Suggested Activity: Team teaching & Venn Diagram

Teachers or experts from outside are invited to the classroom. They help the students to understand the disciplines Psychology, Economics, Sociology, Social Anthropology and Political Science.

Students are divided into five groups. Each group is asked to discuss the relationship of a specific subject to social work.

Later they are asked to prepare a Venn diagram showing the relationship between social work and other disciplines.

Consolidation Points
• Social work adopted its knowledge base form Sociology, Psychology, Economics, Political science and Social Anthropology to social work.

Items for Continuous Evaluation

a. Process Assessment
   1. General discussion on social service
   2. Case presentation on social welfare
   3. Library work on social reform
   4. Case presentation on social security
   5. Time line preparation on evolution of social work
   6. Collage preparation on social justice
   7. Picture analysis on social justice
   8. Preparation of Venn diagram on social work and related disciplines
   9. Quiz competition on evolution of social work

b. Portfolio Assessment
   1. Discussion note on social service
   2. Time Line on evolution of social work
   3. News analysis report on social welfare
   4. Collage on social justice
   5. Library note on social reform and evolution of social work
   6. Quiz questions and score sheet on evolution of social work
   7. Venn diagram on social work and related disciplines
c. **unit evaluation**
   1. Unit test
   2. Preparation of questions and writing answers
   3. Open book assessment
   4. Oral test
   5. Quiz

**Sample TE Items**

1. Among the following, which comes under professional social work
   a. providing clothes to tsunami victims
   b. helping a blind to cross the road
   c. charity
   d. family counselling

2. Distinguish between social work and social service.

3. ……. is the organized system of services aimed at improving the quality of life of disadvantaged sections of society.

4. Match the following

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Swami Vivekananda</td>
<td>Arya Samaj</td>
<td>English Education among Muslims</td>
</tr>
<tr>
<td>Mahatma Gandhi</td>
<td>Brahma Samaj</td>
<td>Institutional welfare service</td>
</tr>
<tr>
<td>Swami Dayananda Saraswati</td>
<td>Sarvodaya</td>
<td>Abolition of Sati</td>
</tr>
<tr>
<td>Sir Syed Ahmed Khan</td>
<td>Ramakrishna Mission</td>
<td>Rise of all</td>
</tr>
<tr>
<td>Raja Ram Mohan Roy</td>
<td>Aligarh movement</td>
<td>Opposed caste system</td>
</tr>
</tbody>
</table>

5. Govt provides financial assistance for a family affected by flood is an example of … (social assistance, social reform, social insurance, social action).

6. Karunya Benevolent Scheme of the Government of Kerala comes under
   a) social legislation  b) social service  c) social work  d) social welfare

7. Social legislation is an important step to control social evils. Justify.

8. Match the following:
<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Social Service</td>
<td>Abolition of untouchability</td>
</tr>
<tr>
<td>2. Social welfare</td>
<td>Consumer protection</td>
</tr>
<tr>
<td>3. Social insurance</td>
<td>House construction under IAY</td>
</tr>
<tr>
<td>4. Social reform</td>
<td>Giving cloths to Old age home</td>
</tr>
<tr>
<td>5. Social legislation</td>
<td>LIC</td>
</tr>
</tbody>
</table>

9. Differentiate the concepts social insurance and social assistance.

10. In 1531, the licence for begging in restricted areas was introduced by ……… in UK

11. ‘Elizabethan Poor Law was a landmark in the history of organized social welfare programmes in UK’. Comment

12. London Charitable Society was formed in the year ...............(1869, 1877, 1899, 1832)

13. Prepare a time line showing evolution of social work in UK.

14. The first charity organization in USA was……...

15. Discuss the circumstances which led to the formation of child welfare movements in USA.

16. The old name of Columbia University was.................

17. ….. is the author of the book “Social Diagnosis”.


19. ‘Rajaram Mohan Roy was a pioneer in the social awakening of 19th century in India’. Comment.

20. Prepare a ladder showing the development of social work in USA.

21. Describe the contribution of social Reform Movements in the development of social work in India.

22. The first school of social work training in India was started in the year ..........

23. Prepare a Venn Diagram showing the relationship between social work and related disciplines.