MULTI-DISCIPLINARY RESEARCH COLLABORATION

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Multidisciplinary Research

- brings disciplines and researchers together to talk about issues from each of their own perspective
- The people involved collaborate but maintain a separation of their disciplines in that process
- When the project is over, the people return and may start other projects depending on the success of the previous one
- When experts from different fields work together on a common subject within the boundaries of their own discipline, they are said to adopt a multidisciplinary approach
- A transdisciplinary team is "an interdisciplinary team whose members have developed sufficient trust and mutual confidence to transcend disciplinary boundaries and adopt a more holistic approach"

Multi-Inter-and Trans-disciplinary

- Multi and interdisciplinary research are often used interchangeably, but originally they referred to different approaches
- When experts from different fields work together on a common subject within the boundaries of their own discipline, they are said to adopt a multidisciplinary approach.
- However if they stick to these boundaries they may reach a point where the project cannot progress any further. They will then have to bring themselves to the fringes of their own fields to form new concepts and ideas--and create a whole new, interdisciplinary field
- A transdisciplinary team is "an interdisciplinary team whose members have developed sufficient trust and mutual confidence to transcend disciplinary boundaries and adopt a more holistic approach."

Multidisciplinary Approach

- This involves drawing appropriately from several disciplines to enable scholars redefine problems outside normal boundaries and arrive at solutions based on a new understanding of complex situations
- This is the current trend widely advocated by experts in different disciplines
- The National Institute of Health and the Howard Hughes Medical Institute strongly recommended that undergraduate biology education should incorporate mathematics, physics, chemistry, computer science, and engineering until "interdisciplinary thinking and work become second nature."

Examples of Institutions Engaged in Multidisciplinary Research

- CODESRIA: Promotes and facilitates research and knowledge production in Africa through a holistic, multi-disciplinary approach. This is done through CRNs, MWGs, NWGs, MMR and Institutes organised around a specific theme. It is also done through working in collaboration with research institutions or linking researchers from different disciplines through its book projects, conferences, workshops and seminars.
- Still within the framework of promoting multidisciplinary research CODESRIA has sustained a collaborative research network with APISA and CLACSO.
- The Council is committed to combating fragmentation of knowledge production, and the African community of scholars along various disciplinary and linguistic/geographical lines

Examples Cont'd

- Imperial College London: The Tissue Engineering and Regenerative Medicine Centre has a multidisciplinary team of specialists working on cell biology, transplant biology, gene expression, gene therapy, immunology, sensors imaging, bioactive materials, orthopaedics, cardiovascular surgery, and minimally invasive surgery

Why Multidisciplinary Research?

- A team of researchers will more efficiently solve a problem than if they worked independently
- It makes researchers to think outside the box which may be important in solving a problem or question
- Most medical problems are multi-faceted and require a range of expertise to properly investigate and potentially solve the problems
- Need to encourage knowledge sharing among researchers and to appropriately address the needs of organisations that sponsor such research

Guidelines for a Successful Multidisciplinary Research Collaboration

- Effective communication
- Explaining concepts to all team members
- Making an operational plan (role, objective, privacy and patent issues. Also timelines, milestones, expectations)
- Addressing differences. The PI ensures that this is done
- Sharing the Credit which include writing and publication of a paper(s)
- Sharing the money
- Discuss project plans and time management
- Holding frequent meetings for evaluation and suggestions
- Openness and honesty etc

Challenges of Collaboration

- Meeting the constraints of different stakeholders with different agendas
- Conflicting data collection requirements
- Resolving unforeseen technical issues
- Resolving administrative issues
- Respecting timelines
- Financial accountability etc

Conclusion

- In today's world, human beings are grappling with a wide range of problems and possibilities which result from increasing complexity. To solve the complex problems and realise the possibilities of technological advances requires coordinated collaborative scientific endeavours that cut across multiple disciplines. Multidisciplinary research therefore holds great promise for yielding greater scientific advances in understanding and improving human performance. It should be the way for scientific productions in our higher institutions of learning.

The End

THANK YOU FOR YOUR KIND ATTENTION