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AN EXPLORATORY STUDY ON FOSTERING EARLY CAREER RESEARCHER GROWTH THROUGH AN INTERPROFESSIONAL UNDERGRADUATE MEDICAL CONFERENCE AT A PRIVATE SECTOR UNIVERSITY IN PUNJAB.

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ABSTRACT

BACKGROUND: This study explores at how undergraduate research conferences influence students' perspectives and promote career development. Through the use of the contextual learning concept, it explores how these conferences function as experiential learning opportunities and aid in the development of critical graduate competencies.**METHODOLOGY**: This investigation was qualitative design. 211 students who participated in Rashid Latif Medical College's Interprofessional Undergraduate Student Conference were interviewed to gather data, and theme analysis was used to pinpoint and match their skill improvement.**RESULTS:**The three main advantages of attending the conference, according to the students, were the opportunity to engage with other professionals, present papers and posters and get feedback, and fully experience the conference atmosphere. Many of the talents and qualities they reported were in line with the domains of the Five-Star and Seven-Star Doctor frameworks. In order to compare the projected results with the actual skill growth, the study also looked at student engagement. **CONCLUSION:** Conference planners can learn a lot from this study about how to create programs that optimize interprofessional undergraduate students' skill development. Additionally, it gives learning creators advice on how to help students get ready for these kinds of conferences. By emphasizing the importance of undergraduate research conferences for networking, improving communication skills, and cultivating competencies pertinent to undergraduate medical and allied health sciences students, the study closes a knowledge gap regarding how these events support skill development in interprofessional contexts.

KEYWORDS– Communication skills, Student Development, Soft Skills, Evidence based Learning, Attributes, Researcher Development Framework, Undergraduate Research Conference, Interprofessional education

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INTRODUCTION

There is ample evidence of the disconnect between what company's demand and what children learn in school.[1] Participating in conferences is a good approach to close this gap because it gives students the chance to gain useful research skills that companies value.[2]

Key abilities developed by researchers are outlined in the Researcher Development Framework RDF by Ríos-Boliva.[3] It is primarily intended for postgraduate students, although undergraduates can also use it to map and analyze their talents. According to Asghar and M. Z. Iqbal, employing this paradigm helps students advance their careers. For undergraduates, conducting research has several advantages, including improving cognitive capacities, developing professional skills, fostering personal development, and offering worthwhile educational opportunities.[4] Nevertheless, the stage in which students showcase their research is frequently disregarded.

Li, F. asserts that high-quality learning requires the integration of education and practical experience.[5] Summer research programs, faculty research apprenticeships, senior projects, conference presentations, and journal publication are all excellent ways for

students to obtain experience. The National Science Foundation stresses how crucial it is to publicize these chances and offer assistance to students so they can present their work.[6]

Academic conferences provide undergraduates with real-world learning contexts, according to the contextual learning theory which serves as the foundation for this study. Through interactions and teamwork with classmates and more seasoned academic community members like mentors and instructors, students can hone their talents in these environments.

Each student's learning path is intended to assist them advance toward a more expert level, starting with conference preparation and presentation and ending with networking, reflection, and possibly collaboration. A greater awareness of and connection to the academic community is likely to improve the experience of the many undergraduates who attend conferences because they are driven and committed to furthering their research and academic careers.[7]

The four domains of the Researcher Development Framework RDF are in line with this study, which aims to comprehend how these experiences help people acquire highly sought-after talents. Reflection on the conference's most advantageous features for students is also encouraged by the results. Additionally, this study offers a fresh method for examining the learning results from an undergraduate research conference by integrating an interprofessional viewpoint and mapping interview data onto the RDF through a variety of conference activities.[8]

METHODOLOGY

211 students participated in semi-structured interviews for this study during the undergraduate conference; each interview lasted 15 to 20 minutes. The study was segmented by the four-person research team, with everyone on the team completing roughly ten-fifteen interviews in each part. As a consequence, 211 interviews were conducted in all segments. The Med Venture and Thinktank segments, keynote lectures whose titles were published in the conference program, and paper and poster sessions were all part of the conference. Following the presentations, the students were contacted and asked to take part in quick in-person interviews. Rather than a paucity of volunteers, the study team's capabilities dictated the quantity of interviews. About 14% of the students who spoke at the conference were represented in the sample.

211 students who attended the undergraduate interprofessional conference at Rashid Latif Khan Medical University participated in semi-structured interviews for this study. Medicine, dentistry, allied health sciences, pharmacy, nutrition, and the humanities and social sciences were among the many fields from which data were gathered. Most of the participants were first- to last-year students who were presenting independent projects or curriculum research. Both oral and poster presenters were included in the sample, and the proportion of genders was balanced. The experiences and professional growth of the students were the main topics of the interviews. There were no particular requirements for gender or race; sampling was done according to the conference schedule. The purpose of the study was to investigate how students' learning was impacted by multidisciplinary interactions during the conference.

The purposes of the study and the rights to leave at any time were discussed with the participants. They were assured that their answers would be anonymous. Informed consent was obtained from the participants both for the interviews and even the audio recording of their answers. Both organizing committees gave their consent for the interviews to be conducted at the conference.

Semi-structured interviews have been selected as the primary data collection method due to their ability to provide a profound insight into the experiences, emotions, and views of the respondents. The primary reason behind the selection of this method was that it was ideal for getting comprehensive and quick responses since students were able to reflect upon their conference experiences as well as enjoy the leeway to ask follow-up questions. Among the topics dealt with in the conference are planning and, obviously, workshops, networking and social events, and plenary sessions. Questions were prepared that could probe specific competencies related to particular elements of the conference. Each interview was fully transcribed after it had been digitally recorded.

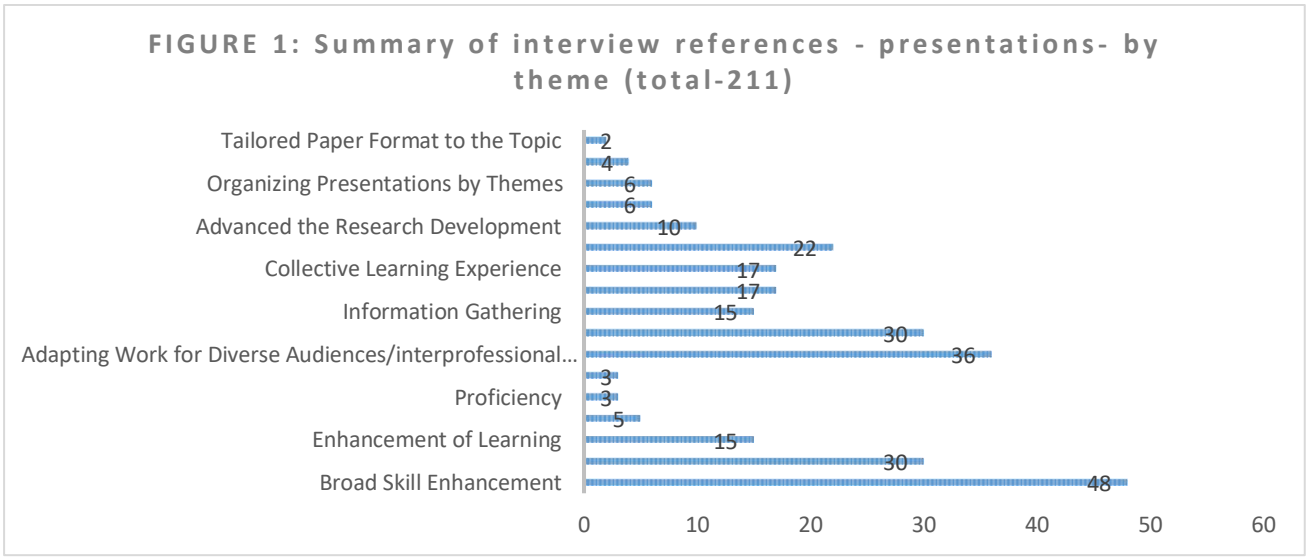
The data analysis of the 211 interviews was conducted by employing a constant comparative approach. The thematic analysis, which entailed determining important areas of

interest and building connections between main categories and subcategories, was made easier with NVivo qualitative analysis software. An open coding technique was used to create themes and categories. Transcripts were examined several times, and the authors cross-checked the coding to guarantee the accuracy of the classification. Following coding, the abilities and qualities that students reported having acquired during the conference were mapped to particular results and themes, demonstrating the ways in which the conference experience aided in their academic and professional development.

RESULTS

Students' experiences at the undergraduate conference were generally positive, and they reported that their preparation and participation in the event helped them develop a wide range of abilities and qualities. The effectiveness of different conference components was evaluated using these perceived advantages. The relationship between the identified advantages and the particular conference activities in which they were observed was charted by the data analysis Fig. I-3.

The findings showed that the importance of paper and poster presentations, the experience of interprofessional collaboration, and the overall conference experience were three important learning areas. The development of these topics from sub-themes, which are arranged based on how frequently they were brought up in the interviews thus the total may be greater than the number of respondents, is shown in Figure I-3.



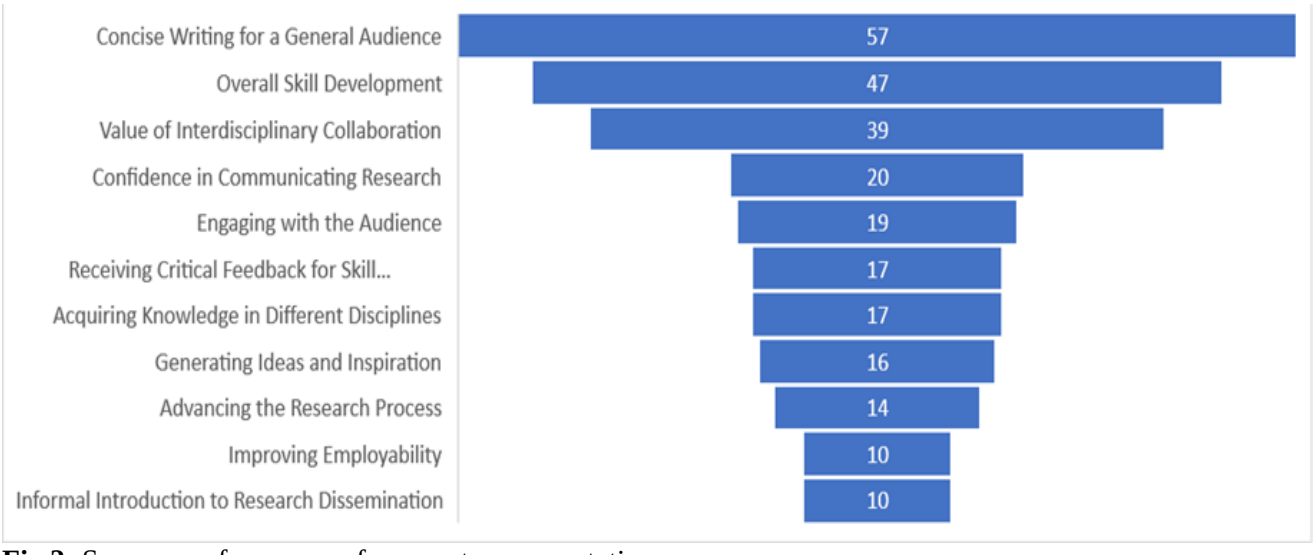


Fig 2- Summary of responses from posters presentations

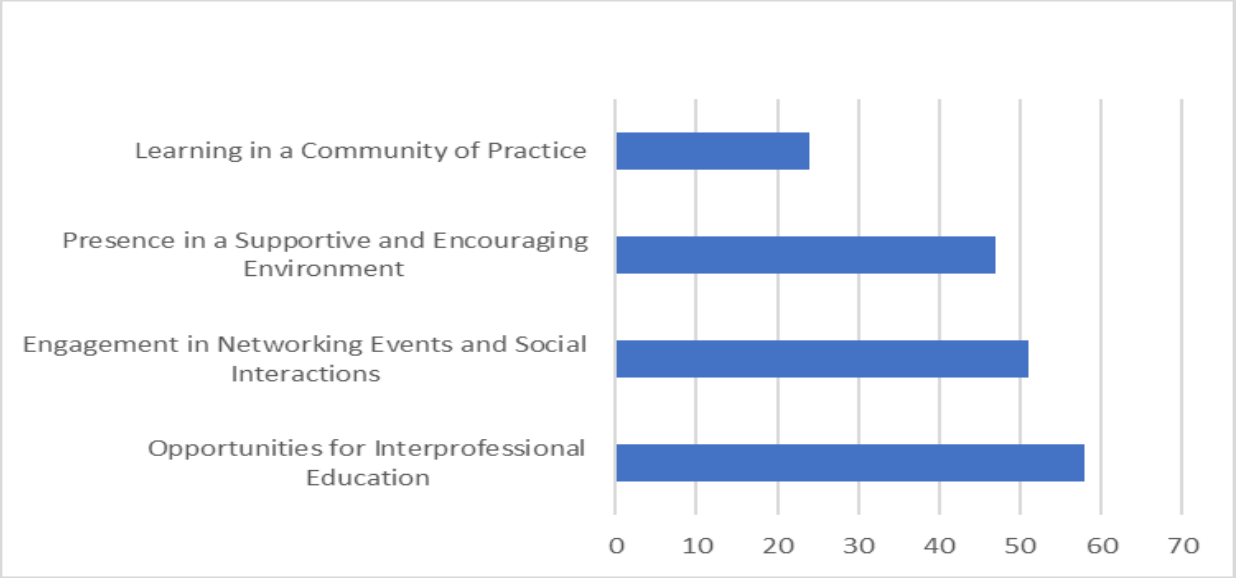


Figure:3 - Overall interprofessional experience of the conference

Below is a detailed exploration of each theme in the words of the students:

Value of Presentation:

This subject is divided into seven primary sub-themes that are associated with giving presentations as well as attending workshops to watch presentations by colleagues. Students emphasized the abilities they acquired from participating in both of these events.

Skill Development:

Gained confidence in public speaking was the most commonly reported ability. Despite their initial fear, students remarked how presenting their work made them feel more confident: "I was really nervous before presenting, but once I was up there, I felt fine." My primary objective was to become more proficient in public speaking, and practice made perfect. "It's difficult to fit a huge dissertation into a few slides, but that's a key skill I gained," they said, demonstrating their ability to distill vast amounts of knowledge into a clear and captivating presentation. Emulating professional norms, developing technical skills, and efficiently managing time were additional important abilities.

Communicating with Diverse Audiences

Students found out the undergraduate conference would involve many participants so that their presentations needed to be adapted to reach large audiences. At some, explanations about technical terms were given and in others; one learned that a more personal approach may be very useful: "Explaining particular research to a wide audience can be challenging but it's essential to make it interesting and comprehendible for everybody."

Learning from Other Fields: "I attended some seminars on economics, a field I know nothing about, but found them really interesting and easy to understand." The surprise of many pupils was a great variety of subjects discussed during the conference with the opportunity of gaining a la rge number of research fields. The participants enjoyed also learning various tech niques of researches and how they are applied in diversified activities."

Receiving and Giving Feedback: Students appreciated the chance to give constructive criticism to others as well as the comments they got on their own presentations. They felt that it helped them overcome personal worries and better their work: "I wanted as much feedback as possible because it helps me improve my research." It's wonderful to at last show my work to the world and receive feedback.

Observing Best Practices: Students gained knowledge of efficient methods and approaches by attending a variety of presentations. They learned what to do and what not to do by seeing various communication techniques: "Observing other presenters taught me a lot, including how to

communicate more effectively and steer clear of excessive jargon."

Shared Experience: Knowing that everyone was going through similar difficulties made the students feel a sense of solidarity. A supportive environment was created by this mutual understanding: "It's reassuring to know that everyone else is in the same boat and understands what you're going through."

Other Aspects: Beyond academic evaluations, students appreciated the creative flexibility, professional approbation, and research advancement that presentations offered.

Poster Presentations: Presenting posters was enjoyable and hard for the students. They found it useful for elucidating their own understanding and learnt how to condense their study into a manageable format: "Making a poster taught me to be more succinct, and talking about it with others really clarified things for me."

Gaining Critical Feedback: A lot of students attended the conference with the express purpose of receiving helpful feedback on their work. As they put it, "I wanted real, critical feedback to help me become better at what I do and prepare for a professional career." They used this criticism to enhance their professional and research skills.

Multidisciplinary Nature and Research Approach: Participants in the conference asked challenging questions despite the wide range of disciplines present, which enabled them to see their research from fresh angles. Some students discovered that the criticism they got caused them to reevaluate their research techniques: "I've had to reevaluate how I'll approach my next project after being asked about my methodology in various ways."Peer review helped students get ready for peer review in academic submissions and publishing. Many students received useful recommendations for their dissertations and considered this component of the conference to be beneficial for their current studies.

Overall Conference Experience

Networking and Social Interactions: One of the conference's most notable features was networking, which gave students the chance to meet mentors and peers. Through these exchanges, students were able to learn about new study topics, find helpful resources, and develop their networking abilities. "My future career is sociology, and I met someone with a background in that field. It was wonderful to get to know him, learn how to network, and concentrate on important contacts. "Learning how to network effectively and share research in a concise way was very helpful," said the students, who also valued the workshops that covered networking strategies and gave them greater confidence when meeting new people and discussing their study.

Being Part of a Community: Students appreciated the relaxed atmosphere of the conference since there were not-so-apparent typical academic hierarchies. They were able to gain more professional insight in such an atmosphere and their assurance also increased: “In conventional conferences, since I am an undergraduate, my sense of worth may reduce. Here, being regarded at an equal level increases my self-confidence”. So, the undergraduates' conference attendance can be regarded as respectable and potentially useful for interviewers and teachers, as well as offering a glimpse into the academic world. They found the positive environment to be quite useful in boosting their confidence and also what is in store for them in the coming study and work environments.

The Researcher Development Framework RDF outlines key qualities and skills essential for becoming an effective researcher, grouped into four main areas. This study explored how participation in the undergraduate conference contributed to the development of these skills, particularly in public engagement.

Table II illustrates how the conference supported the development of each skill based on student feedback, using a scale to indicate the strength of skill development low, medium, or high depending on how frequently the skill was mentioned by participants.

By analyzing this, those responsible for researcher training can more effectively design conferences that target specific skill improvements and enhance public engagement. For example, an undergraduate research conference could be tailored to strengthen core skills and improve students' ability to engage with the public.

DISCUSSION

From the standpoint of the students, this study identifies the features of undergraduate interprofessional conferences that are most beneficial. The study's structure aids in charting the growth of critical abilities that are essential for upcoming graduate-level work.

The function of conferences as contextual learning environments has been studied in the past. For instance, Anderson and Passera included a mini-conference in their undergraduate business course, where "novice" students applied their knowledge to actual business situations while "expert" students researched journal papers and co-presented on recent advancements.[9] Through a community of practice, this method gave students a safe place to hone their concepts and hone their analytical abilities. In a similar vein, Xiangdong discovered that simulated conferences improved the professionalism, psychological fortitude, and strategic abilities of undergraduate interpreters, better equipping them for their future employment.[10]

Developing research and other critical abilities to prepare students for the workforce is directly related to the idea of graduate qualities. The goals of this study were influenced by the necessity of research and inquiry abilities, which are emphasized in many models of graduate characteristics.[13]The literature emphasizes the importance of students reflecting on their skill development throughout their learning journey and the value of offering them co-curricular, authentic learning experiences to cultivate these attributes.[14-15] While the RDF framework enables open dialogue between academic faculty and students about the development of core abilities through research engagement, conferences provide a quasi-professional setting where students can hone their research talents.

Students gain a deeper understanding of their subject and enhance their communication skills by presenting their research at academic conferences.[16] In addition to completing the research process, this phase of sharing research helps students become more involved in their field's research procedures.[16-17] Although a number of studies have assessed student feedback after conference programs, this paper focuses on the effects of conference participation and socialization on students' professional development, skills, and abilities. Oral paper presentations teach students how to condense information, manage their time, and customize their presentations for a variety of audiences, according to Shanahan et al. 2013.[18] Furthermore, several studies have shown that students receive insightful criticism and new viewpoints on various research techniques.[19]

Another author investigated the effects of familiarity on a number of performance metrics, such as clarity, engagement, and communication effectiveness, and how the style of presentation affects these metrics.[20] For the purpose of practice writing clearly and succinctly and effectively communicating their study, students found these features to be beneficial. Furthermore, they were thankful to be able to integrate critical views in seeking participative approaches.[20-21]Both authors of papers and posters reported that they were assisted by helpful criticism that helped them out of self-doubt to perfect their work. The feedback sessions were handled by competent session chairs and were in most cases well timed. These findings are consistent with the findings of a study by Ariyani 2023, which suggested that such sessions could be utilized as another medium of teaching leadership and communication skills.[22]

Mentoring and connecting with peers, as well as exploring new lines of inquiry, were also benefits of formal and informal networking at conferences. Many students in a Lucas study responded positively to these informal interactions, which in turn contributed to the advancement of an academic ethos.[23] The conferences created a very conducive learning atmosphere where the students interacted more freely with the teachers as well as amongst themselves.[24] This environment led to increase in students' self-esteem and understanding of the professional academic world was made easier.[25]All conferences should provide the opportunity to its attendees to showcase their research work and collaborate with in interprofessional community.

CONCLUSION

Through undergraduate research conferences, students are provided with opportunities to acquire skills that are essential in securing employment in the future. During these events, students are able to develop their researching, communication and the public speaking skills. The conferences serve an easy way for colleges to motivate students and instill a sense of research in them as it's cost effective.

With respect to the nature of the work presented, the different interprofessional modalities offered at undergraduate research conferences are posters and presentations. This balance gives every student an opportunity to

present their work. Also very important is the provision of time for questions and responses in order to enhance understanding and the students' work improvement. It is very important to include a slot for rest to enable the students to network, interact and learn from each other. Students speaking in the conference might perform worse as they rarely practice. Include people who are not presenting to create a better atmosphere in the conference and attract more.

In conclusion, undergraduate interprofessional research conferences let students practice their skill, which is beneficial for overall academic community, which is a great benefit for students. Achieving these guidelines, invite organizers to create a warm environment to participate in such events.

Authors Contributions:

K.J: Write up, main contributor, data analysis

M.T: conducted interviews, write up

U.N: conducted interviews, data analysis, proof reading

A.J: Conducted interviews, data analysis, final review

ETHICS APPROVAL: The ERC gave ethical review approval.

CONSENT TO PARTICIPATE:written and verbal consent was taken from subjects and next of kin.

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