

**A Summary of the findings of  
of the UGC minor Research Project entitled  
‘AN ANALYSIS OF EFFECTIVENESS OF STUDENT SUPPORT  
SYSTEMS IN INDIVIDUAL PERFORMANCES USING FUZZY  
RELATIONS’**

The academic excellence of educational institutions is evaluated mostly by the performance of its students. Those institutions which provide additional support to students than routine lecture classes can achieve a better result. These student support systems are aimed at the overall development of the students and thereby improving their performances to lead the colleges to higher degree of excellent outputs. Almost all the institutions are offering the same student supports systems. Those include remedial coaching, organizing Seminars and invited lectures, personality development programme, Psychological counseling and many others. The problem which was that “Of the mostly given support systems what will be the degree of importance of each of them and which one is more effective in enhancing student performances”. As both importance and performance can be considered as fuzzy variables, a fuzzy approach can be used in this case.

Three main student support systems were selected for this study. They are chosen because they are the most frequently used ones. The selected support systems have an impact on students from different dimensions. They are

1. Remedial coaching/ Tutorial classes.
2. Organizing seminars and Expert lectures
3. Personality development programmes/ Psychological support
4. Others. (ICT enabled Classes, good library and infrastructural facilities, others)

We created the linguistic variable  $X$ = effectiveness of student support systems by institutions which can considered as a fuzzy variable. This is modified using fuzzy

linguistic hedges into five different levels which are Least effective, Less effective, Effective, Very effective and Highly effective. The fuzzy modifiers are selected suitably to define each stage/ modification

We also create the linguistic variable  $Y$  = enhancement in the performances of students. This can also be considered as a fuzzy variable and is modified using fuzzy linguistic hedges into five different levels which are Least enhanced, Less enhanced, Enhanced, Very enhanced and Highly enhanced. The fuzzy modifiers are selected suitably to define each stage of improvement/enhancement.

The data about student support systems in various institutions are collected from students and faculty members through questionnaires and interviews. We are not considering the geographical, financial or cultural class of institutions or students. The conclusion is subject to analysis based on fuzzy relation equations.

The analysis shows that the different institutions are giving importance to student support systems in different manners. Most of the institutions choose Tutorial/Remedial as the most important support system by with varying degrees of effectiveness. The final conclusion through the fuzzy relationship with effectiveness and importance shows that Tutorial/Remedial method is the most effective tool in supporting the student community to enhance their productivity. The institutions which use the tutorial/remedial system more effectively will produce the most enhanced performances. This is based on the fact that more personal attention can be given to students in such sessions. This will help to transfer more knowledge to students as well as induce more confidence in the students. Such an exercise will result in a better performance by the students. The presence of good library with sufficient number text and reference books came to be the second most effective way to improve the productivity of students. Though this result is based on a study with a small number of institutions, it gives an idea about how should the institutions manage the support systems for the benefit of student community.