Misconception in maths

Education

Order No. 260052 Misconception in Maths Misconception among the is generally because the concept is not clear. Problem A: Two examples of student's misconception that could cause this error can be firstly the concept of multiplication of signed numbers is not clear among the students. They might have a misconception that when numbers of opposite signs are multiplied with each other the sign of the greater number which is multiplied will be there on the product or will affect the sign of the product. Like in this case (-5) x (-6) = -30. Here the number 6 is greater than number 5 so the sign that is there in front of 6 will be there on their product as well. Second misconception can be that when a positive sign is multiplied with another positive sign (+) i. e., (+) x (+) = (+) only then the product will be positive rest in all other cases it will be a negative product only. This is a very common error that students of given grade commit.

B. The teacher must have overlooked to ensure that the students are aware of the multiplication of sign numbers and their effect on the product's sign. The teacher would have concentrated more on the valuation of the product than on the sign of the product. The teacher might not have shown proper examples on the board showing the multiplication effect of different sign. It could be possible that the teacher might have taken just one example of such effect of multiplication of sign, leaving the rest on the capability and understanding of the student that could have led to such an error on behalf of the student. Its also possible that the teacher might have explained the concept by theoretical approach rather than adopting practical approach.

C. To avoid such misconceptions the concept of multiplication of signed numbers should be clear among the students. " Telling students where they are mistaken will not work either. Recognizing student misconceptions and

immediately focusing a discussion on the misconception is important. Providing guiding questions using inductive reasoning is the best approach." (Wetzel) For this the teacher should explain the concept of following chart practically to students several times so that the basics are crystal clear among the students and they are not confused as to which sign to put on the product.

Chart:-

(+) x (+) = (+)

(-) x (+) = (-)

(+) x (-) = (-)

(-) x (-) = (+)

By clearly explaining the above chart with the help of practical examples the student will never get confused and will have a clear idea as to what sign should be applied when.

References:

Wetzel. David R. 5 Misconception in Elementary Mathematics: Elimination of Mistaken Beliefs about Maths Concepts is Critical. 2008.