1096-VO-21 **Keneth Adrian Precillas Dagal*** (kendee2012@gmail.com), Lot 15, Blk 30, Urban Poor, Pacol, 4400 Naga, Camarines, Philippines. *Generalized Locker Problem.*

The Locker Problem is frequently used in introducing some topics in elementary number theory like divisors and multiples. It appears in many curricula ranging from elementary, secondary and up to tertiary level. In this paper, I will provide the structure of the problem and algorithms in solving some modified problems.

The locker problem varies in terms of the number of lockers and students. But the number of lockers and students is assumed to be equal.In most cases, the number is 100, but there are cases wherein the number is 20 or 1000. The answer is known that those lockers whose number is a perfect square will be left opened.

In this paper, we consider the possibility that the number of students and the number of lockers is unequal. We also consider the possibility of students repeating turns and the possibility that some students will not participate in the activity.But we preserve the rule of the problem which is every ith student will change the state of all lockers numbered j where $i \mid j$. In addition to this, I will provide algorithms in finding the corresponding open or close lockers given a subset of students and vice versa. (Received May 21, 2013)