Work Shop Scheduler Problem

If you are finished the 10 exercise questions you can try a real world program. Don Mills will be holding a Mental Health symposium on April 10. For the first hour, grades 9/10 will attend a workshop for one hour and listen to a keynote speaker for the other hour.
Before the seminar, each student will be asked to list their top 5 workshop choices in order of preference, with 1 being their most preferred workshop. There will be 25 different workshops and students will be attending one of them, preferably their first choice. Each workshop has a limited number of spots.

In order to run the afternoon smoothly, a schedule needs to be created that assigns each student to a workshop. So given a list of student's names S_1 to S_n and the capacities for each workshop W_1 to W_k, the program will output the workshop that each student will attend. The schedule should be as efficient as possible so that every student is placed in a workshop that was their first choice, otherwise, if not possible, their second choice and so on. In fact your program will also output an error rating for your schedule which will be defined as the sum of the differences between their first choice and their actual assigned workshop number.

Here is an example for 4 students. Say that the preferences for students [A, B, C, D] were as follows:

Student	**Workshop Preferences**				
	1	**2**	**3**	**4**	**5**
A	3	15	2	7	23
B	3	7	15	2	23
C	2	7	15	23	3
D	7	2	23	15	3

And say, after running the program, the schedule for the 4 students [A, B, C, D] was output as:

Student	**Workshop**
A	3
B	7
C	15
D	2

Then the error rating E, of this schedule would be:

$$E = 0 + 1 + 2 + 1 = 4$$

because the first student got their 1st choice (diff = 1-1=0), the second student got their second choice (diff = 2-1=1), the third student got their 3rd choice (diff = 3-1=2) and the 4th student also got their second choice (diff = 2-1=1). Adding up all of the differences results in an efficiency of 4 and the lower the error the better the scheduler has placed students in their chosen workshops. An error of zero would indicate that the scheduler was able to place every student in their first choice.

So to summarize:
INPUT:

- student names $[S_1, S_2 \ldots S_n]$
- 5 preferences $[p_1, p_2 \ldots p_5]$ for each student S_i
- k workshop capacities $[W_1, W_2 \ldots W_k]$

OUTPUT:

- student/workshop schedule for all students (as in the example above)
- error rating E for the schedule produced