

NOLS FIELD INSTRUCTOR SENIORITY PART ONE: SENIORITY VS. INCIDENTS AND EVACUATIONS

Tod Schimelpfenig, NOLS WMI Curriculum Director
 Drew Leemon, NOLS Risk Management Director
 Jim Sibthorp, Ph.D, University of Utah

Introduction

Instructor experience is highly valued at NOLS and is commonly equated with competency. Experience is measured as seniority, which is weeks worked in the field. There is concern within the organization when instructors or instructor teams with weeks in the field below a subjective and varying minimum level of seniority are hired. A common belief is that more senior instructors achieve higher educational outcomes with fewer student medical incidents and evacuations than junior instructors. Part one of this study looks at the relationship between seniority and incident and evacuation rates; part two, to be completed at an unspecified time in the future, will look at the relationship between seniority and reported educational outcomes.

Seniority is not a measure of skill or competency. It may be a measure of experience, but it is not a measure of the quality of that experience. However it is reasonable to think that an instructor that has been working at NOLS for many years and who has accrued hundreds of weeks of seniority will be competent due the fact that his or her performance has been rewarded with continued work.

In this study we attempted to test the hypothesis: senior instructor teams or course leaders, have fewer medical incidents or evacuations than junior instructor teams and course leaders.

Methods

Using NOLS' proprietary staff database application STARZ and the risk management database application INCIDENT we designed a simple study to compare medical incidents on Wind River Wilderness courses and NOLS Rocky Mountain rock climbing courses against the seniority of the instructors and the instructor teams at the time of the course.

Initially we wanted to study the same course type, e.g. wilderness, across multiple NOLS locations. However, we became concerned that certain local variables may exist at these different locations and that these variables likely influence evacuation decisions. These variables include management/supervision emphasis or style, ease or difficulty of evacuation logistics and the influence of program area or terrain. To eliminate these variables we chose only

courses from NOLS Rocky Mountain because we could get a large enough sample size over just a few years.

The main focus of this study examined 85 Wind River Wilderness (WRW) courses from 2003 through 2006. WRW courses are a prominent course type, many different instructors work them, new instructors are often assigned to them, and they often have the least senior instructors or instructor teams working them.

In addition to the primary sample of WRW courses, we sampled 55 rock climbing courses from 2004-2006. This was done primarily to account for the possibility that more senior instructors are assigned to more technically demanding courses, and thus may have different medical incident and evacuation profiles. The rock climbing courses were primarily semester rock camps, but also included rock and river combination courses, and summer rock climbing courses (the latter is a hiking course in the Wind River Range with a strong rock climbing emphasis).

The 85 WRW courses and the 55 rock climbing courses provided a sufficient sample size from which to draw statistical conclusions.

Results

Course Type	Course Leader	Patrol Leader 1	Patrol Leader 2	Instructor	Team
WRW	67	14	Na	11	89
WRW high/low	402/8	87/10	Na	95/0	414/21

Instructor seniority included ROPE weeks, which is a measure of time worked in adventure education prior to working for NOLS. The average weeks in the field for WRW instructors is as follows:

Among the WRW courses there were 76 medical incidents (44 injuries and 32 illnesses) and 45 medical evacuations. Among the rock climbing courses there were 34 medical incidents (13 injuries and 16 illnesses) and 25 medical evacuations. We excluded incidents that were not directly

related to the course such as incidents that occurred on issue day, or on semester transitions for the rock courses. There were 36,217 program days of WRW programming.

When comparing the number of evacuations to seniority we chose to look at combined instructor team weeks and course leader weeks. We did not break out patrol leader and instructor seniority separately.

We calculated evacuation rates of different levels of seniority using the classification for determining salary differential between positions.

WRW 03-06 Evacuation Compared to Seniority

Team Weeks	# of Courses	# of Incidents/ Evacuations	Evacuation rate/1000 Program Days
0-50	31	26/15	1.16
51-100	25	25/14	1.31
>100	29	25/16	1.27

The overall WRW evacuation rate for this sample was 1.24/1000. The school wide evacuation rate for all courses is 1.17/1000. The difference between the school wide and WRW rates is not significant.

There is consistency in the number of WRW courses worked at the different seniority levels and the number of incidents and evacuations. There is some variability in the evacuation rate, but this is not significant.

We also looked at the relationship between course leader seniority and incidents/evacuations.

WRW Course Leader Weeks

Course Leader Weeks	# Courses	# Incidents/ Evacuations	Evacuation Rate
0-50	48	46/25	1.23
51-100	21	14/10	1.13
>100	16	16/10	1.42

Three times as many new (recently promoted) course leaders (0-50 weeks) work WRW courses compared to course leaders with over 100 weeks of seniority. While the number of incidents and evacuations for the < 50 weeks group are the highest (there are more courses) the evacuation rate for this group is in the middle and is not statistically different when compared to the more senior groups.

In addition to the WRW courses, we also explored the relationships in rock climbing courses by sampling 55 rock

climbing courses from 2004 through 2006. These were primarily semester rock camps, but also included rock and river combination courses, and summer rock climbing courses. We excluded incidents that were not directly related to the particular course. This was mainly an issue on the semester rock climbing courses when there is an injury or illness that occurred on the previous semester section. We also found with these courses that there is no evidence to support the hypothesis that more senior instructors have fewer incidents/evacuations. The overall rock climbing course evacuation rate for this sample was 1.32/1000.

Conclusion

The hypothesis that senior instructor teams or course leaders at NOLS have fewer medical incidents and evacuations than junior instructor teams or course leaders was not supported by these data. There is some variability between seniority levels, but the study found no a significant relationships between course leader or instructor team seniority and evacuations and risk management incidents. The same pattern holds when we separated out and examined injury, illness, non-medical and near miss rates.

Despite the lack of support for this hypothesis, there are several key caveats to consider when interpreting this study.

- 1) This study does not address issues of individual course quality or risk management. These data cannot provide adequate insights as to the intangibles that instructors bring to a course such as character and personality or how they manage the variables of the course's students, weather, terrain and other factors.
- 2) This study does not conclude that experience is unimportant. It only says that in this sample there is no relationship between course leader or instructor team seniority and field risk management incidents or evacuations.

Instructor experience at NOLS, while highly valued, may not be a significant factor in preventing medical incidents. It may be that many incidents are so idiosyncratic that experience alone is not a significant factor in preventing them. However, experience may help in how incidents are managed, or it may prevent a catastrophic incident.

While on the individual instructor level these data do not show how risk is managed on courses, on a larger scale we believe that this information does show that the NOLS systems of risk management are effective. Our systems and culture of risk management including, staff selection, training, and hiring, supervision by program supervisors, combined with a well established curriculum and teaching progression set an effective and achievable standard for our program delivery in terms of incident prevention. This standard levels the playing field. In other words less senior teams can deliver the program, as measured by reported incidents, as well as more senior teams.

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