

SETTING THE NORM:  
EXPLORING THE LACK OF STANDARDIZATION IN THE MANAGEMENT OF  
ROUTESETTING TEAMS IN THE CLIMBING WALL INDUSTRY

by

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**Abstract**

This Honors Project is intended to highlight certain institutional weaknesses within the climbing gym industry as a whole and to spark a dialogue therein. Specifically, it is meant to highlight the need for standardization within the management of a routesetting team in order to help the industry to become more standardized--especially in safety practices. In addition to this philosophical perspective aimed at igniting a dialogue in the climbing wall industry, a survey was conducted in order to identify and to highlight certain necessary standards (staff training practices, such as having a manual) and to analyze if there is ideal number of setters for climbing walls of different sizes. Lastly, this project contains resources, gives concrete examples of sections of a hypothetical staff manual, and shows other examples of standardizing practices that could be tailored by a manager or even implemented as is.

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*"El que lee mucho y anda mucho ve mucho y sabe mucho" -Cervantes*

**Introduction**

This thesis project is meant to outline and suggest certain standards and to highlight some of the many resources available in the United States when it comes to managing a team of routesetters at a climbing gym or wall. Additionally, this work will highlight some of the issues, problems, and questions that may impact the job of a climbing gym manager or head routesetter. There exists a good deal of information about how to manage a gym or business and how to effectively set individual routes--some of which can be found in the Supplemental Resources section below. However, there is very little information or standardization in the management and implementation of the team that sets routes. The goal of this work is to spark a dialogue on the topic and hopefully lead to more standardized practices in the routesetting industry that will in turn lead to better, safer, more effective, and more fun climbing gyms.

The sections of the project will include questions managers should ask themselves, training and hiring tips, a hypothetical flow of the routesetting process, routine maintenance, staff safety standards and check-off processes, non-exhaustive glossary of routesetting specific terms, further reading, and references.

### **What Questions Should Managers Ask?**

Through professional and personal experience, several important questions have been identified for managers to ask themselves and their setters in order to have the most effective and safe facility. Keeping these questions in mind while reading this thesis project will help in identifying an organization's needs in regards to routesetting. These questions include, but are not limited to:

**What kind of organization is this?** Is this a commercial, non-profit, university/public, camp, or a training/home wall? This is an important question because it could dictate how often (or even if) the wall needs to be reset. It could dictate risk management or financial decisions such as how many setters can be afforded. It will dictate the type and frequency of setting.

**What kind of wall and facility do you have?** An extreme example of this question is: do you have a concrete outdoor bouldering wall or an indoor wooden lead wall? While not everything is going to be that starkly different, looking critically at your facility will help to identify the needs and options you have when it comes to setting. Knowing the size of the wall and the desired hold or route density are also important things to keep in mind. The more densely populated the wall needs to be, the more setting (and possibly setters) will be needed. Density keeps the wall from looking empty; however, too densely set walls can lead to confusion and/or frustration of the users and overworking of the setters. Additionally, from the author's personal experience, polyform walls or walls styled to look like actual rock, while fun to look at, can lead to frustration for the setting team since the uneven surface is not as conducive to diverse routesetting.

**Who are your participants?** This is a critical question that plays into the prioritization and allocation of resources. If you are, for example, running a summer camp or ropes course with a climbing tower built in, you may never even need to reset because your participants needs do not dictate this as a necessity. The main exception to this particular example is the washing and cleaning of the holds. If the goal is to get people to the top, you may not need anything other than the easiest of holds and a homogenous hold selection. Having a suggestion box or a way to field comments by the usership is key to making sure the facility is actually providing, to the best of their ability, what the users want.

**What resources are needed to obtain or retain the facility's goals?** A hypothetical situation of this is if you are running a wall for training high-level or World Cup competitors but have an average setting team and a lack of diverse hold selection. The setting team should be just as high quality, diverse, and creative as the hold selection and clientele with which they work. Having a creative, efficient, collaborative, and above all *safety conscious* setting team will further than the best facility without a good staff could possibly go. Additionally, fiscal limitations can impact the holds, staffing, and setting standards. Lastly, knowing when you can or should outsource certain functions of the organization--such as bringing in external setters--is an important realization to aid in meeting the clients' needs.

**How often do you need to reset the wall?** As mentioned above, knowing how often (or if you need) to reset the wall is an important question for the management team to understand. Setting too often carries a high financial burden and can reduce the excitement of the clients if they never get to try the same route twice. However, resetting too rarely can

lead to stagnation, boredom, and even cleanliness issues. As discussed in a study conducted by Bräuer et al, bacteria commonly associated with fecal matter was present on “100 % of the holds surveyed” (Bräuer et al., 2014, p.1). Therefore, cleaning the wall, as will be discussed below, is a necessary part of the setting process (Rabinowitz & Frauman, 2015).

**What can be done to help make the setting team as safe and effective as possible?** Hiring a safety conscious and hardworking staff that can take constructive feedback is key. Additionally, providing them with the resources they need is also important. Making sure they have the time, person-power, holds and tools, training, and even the information they need all play important roles in the safety and efficacy of the setting team. Having books like *Fundamentals of Routesetting* (Anderson, 2014) on hand and using well-populated forums like Routesetters Anonymous ([facebook.com/groups/routesettersanonymous](https://www.facebook.com/groups/routesettersanonymous)) can also help to increase the standards of the staff.

## **Training new setters**

Like new employees at any job, a recently hired or inexperienced setter should not merely be thrown into the deep-end. There must be some sort of orientation, training, shadowing, and critique process after they are hired. Each of these will be explored in deeper detail; however, keep in mind that these processes will be explained through the scope of setters joining the team and this section is meant to supplement other common best practices for new employees. This is a framework for management practices that can be implemented as is or could be tailored to meet the needs of a particular organization or facility.

### **1. Hiring new employees.**

Once you have defined your target clientele, the next step is knowing who to hire to help make your facility meet the needs of the participants. Criteria such as the size, type and age of the gym may be useful in determining how many and what skill level of employees (setters) to consider hiring.

So, how many setters does your facility need? Using data collected in an online survey posted in the popular web-forum Routesetters Anonymous ([facebook.com/groups/routesettersanonymous/](https://www.facebook.com/groups/routesettersanonymous/)) with 63 usable answers from 64 responses from several countries, the average number of setters is 5.5 staff (rounding up to the nearest 0.5 staff). This was calculated by assigning full-time, paid staff as 1 and volunteer or part time as 0.5. Special cases such as two staff who share responsibilities on a rotating schedule were counted as 1 collectively. Lastly, we had one respondent with a home wall who is excluded from these data. Using these criteria, the smallest staff was 1 and the largest was 15. Therefore, the average number of setters was 5.5.

In the same survey, we found that the average wall size is 11,754 square feet. Out of 64 answers, 8 people said they did not know the size of their wall and 6 answered with unusable information (approximate size, only listing height of the wall, etc.); the same home wall owner from above was excluded. This left 49 usable data points to calculate the average size. These data indicate that the largest wall surveyed was 65,000 square feet, the smallest was 400 square feet, and the average was 11,754 square feet. When analyzing the data, the largest wall, 65,000 square feet, is a statistical outlier. However, additional analyses indicated that these data were not clustered around the mean. Interestingly, this discrepancy suggests that the outliers may not actually need to be removed from the data. For a graph of the distribution, please see Figure 1.

According to the Climbing Business Journal in 2017, the average full height climbing gym was 13,750 square feet and the average bouldering gym was 6,000 square feet. When averaging the industry as a whole, this means that in 2016 the average size gym had 9,875 square feet of wall. Additionally, it has been noted by the same journal (especially in the 2017 edition of “Gym Trends of 2017”) that gyms are trending in a larger direction. Meaning, our average of 11,754 square feet may actually be in line with the industry as a whole and the outliers can be explained by the fact that we likely had respondents from the two styles of gym. However, this is speculation, since our survey did not have the respondents specify which styles of climbing they facilitate.

Using the means from the survey, each setter is responsible for an average of 2,137 square feet. Essentially, this means that, for every ~2,000 square feet of wall, a gym needs one full time setter. Therefore, a quick way to determine a baseline for how many full time setters are needed, we suggest that managers divide the wall size by 2,000. For a ~10,000

square foot wall, having roughly 5 full time setters might be ideal. This average does not take into account collaborative effort, route density, or sectional resets, leaving room for further research.

If you are managing a new or small climbing gym, it may be more important that you focus on hiring experienced, committed, and longer-term setters. This investment in staffing would ideally yield a lower employee turnover. Having an experienced setting team may also lead to a smaller sized team being needed. This is at the cost of a slower job search, higher pay, and more workforce loss if one person leaves the position or cannot make it to work one day. This model is opposed to a larger, more solidified in the industry gym model where an open spot may need to be filled quickly and inexperienced setters can join an already existing pattern of mentorship and training. Additionally, is the organization looking for full time or part time employees? Does the gym supplement the setting team by hiring additional forerunning team members or strip and wash team members? Asking questions such as these will be an important part of the hiring process--know what you are looking for before you start searching.

## **2. Orientation.**

This is when the new setter will be shown the facilities, given a run down of things that may be different about this particular facility, and given a summary of roles/duties/schedule.

The standard new setter orientation should likely take place on a date when setting is happening. This is so that the process can be highlighted and on job training can be started at the same time as the orientation. A successful new setting team member orientation should include, but not be limited to, the following. Reminder, this is meant to

supplement standard best practices for new employees and function as a setting specific guide.

- Tour of facilities. Tour of front and back of the house, equipment storage locations, and review of relevant procedures and common practices.

- Review of roles employee is expected to perform.

- Introduction to fellow employees.

- Given a review of the gym norms (what grades used, route standards, washing/sanitation procedures, etc.).

- An opportunity to ask questions.

- Starting the check-off or job training process in order to help the new hiree be the most effective employee possible!

As a part of the new staff orientation it should be noted that the norms and standards for your organization should be easily identified and accessed by new employees. This is why many places implement documents such as Staff Handbooks or Wiki-Style resources. This consolidated location for informational reference is an example of a missing standard in the climbing wall industry. For example, from the questionnaire posted on Routesetters Anonymous--a well-populated, international forum with over 6,000 members, (though it is unknown how many are actually active), as of May 2018-- over 64% of the respondents ( $n = 64$ ) replied that they do not have an official handbook or training manual for their staff. This is an important issue and needs to be addressed in the industry. Having an official, standardized safety, training, and standard practice manual for staff should be the norm-- examples are staff policy handbooks that, as stated by Gillian Flynn in 2000 (p. 132), "are the first line of defense against lawsuits [filed by employees]." Fortunately resources such

as *Fundamentals of Routesetting* and Routesetters Anonymous can serve to help supplement a standard policy manual in the context of a routesetter. For additional relevant sources, see the Supplemental Resources section.

### **3. Training and check-off process**

Trainings and check-offs for certain tasks afford setters the opportunity for upward movement in their positions as well as a clear acknowledgment of their responsibilities. Check-offs should be based on improving and increasing the abilities of setters, not limiting or hindering them. Safety is perhaps the biggest benefit gleaned from having standardized check-off processes. The following are three examples of potential standardized checkoff processes a manager could implement. In order to put these standards into use, one possible process could be to print out each checkoff with spaces for supervisor's signatures and dates for each and keep them in a file for each staff member.

#### *Impact driver training.*

- a. Knowing which bits fit which bolts and which bolts fit which holds.
- b. Preventing stripping or de-threading, ability to identify such issues before or as they arise, and ability to fix each issue (using a tap, replacing t-nut, etc.).
- c. Knowing which Personal Protective Equipment (PPE) items need to be in place for each situation where the tools are in use (ladders, ear/eye protection, leash, etc.).
- d. After a designated amount of time and proficiency, they can check off to be a trainer for new employees.

#### *Ladder Checkoff.*

- a. Knowing which ladders are used in each situation (a-frame vs extendable).

b. Preventing ladder tippage, tearing of pads, and where it is not allowed to use or stand on ladders.

c. When to use a rope instead.

d. When ladder-holding is appropriate.

e. After a certain amount of time, they can begin to be the trainer for new employees.

*Rope system checkoff.*

Due to the safety concerns with this particular checkoff, specific rope-systems will not be explored in this document. Seek qualified instruction if there are questions about best practice.

a. Be able to confidently, safely, and efficiently set up the appropriate rope systems for each context in which they will be used.

b. Being able to identify *incorrectly* set up systems and how to fix them

c. Always ask for peer-review of systems. (2 others need to double check systems before leaving the ground).

d. Knowing standard bucket/hold transport to heights as well as how to effectively install larger volumes while suspended on a rope.

e. They can eventually check-off to be a trainer for new employees.

*Working behind the wall.*

a. Knowing how long they can be behind the wall before PPE (Eyes and respiratory) practices come into play.

b. Knowing when hearing protection practices are necessary

c. Knowing proper cleaning technique

d. Being able to identify when the area needs cleaning

**4. Continuing education, critique, and review of existing staff.**

One way to continue the development of your staff is to send them to external trainings and other professional development opportunities where they can obtain certifications that demonstrate their qualifications. An example of one such opportunity is the USA Climbing Routesetting Certification series ([usaclimbing.org/Officials/Routesetters.htm](http://usaclimbing.org/Officials/Routesetters.htm)). The USA Climbing Routesetting Certification clinics are aimed at improving the standard of setters across the country and are additionally a good way to gauge the level of your potential employees. These qualifications/credentials could be a potential criteria that aids in hiring a new setter to fill a higher position. Embracing this model will help the industry tailor the standards for potential routesetters in the direction that meets the facilities' goals. While it is unlikely that all routesetters will ever become certified through a central body such as USA Climbing, perhaps urging and facilitating your more experienced or Head Setters to pursue such training and development is beneficial to your facility and institution/organization.

Some gyms also host clinics for routesetters facilitated by the countries' best routesetters. Either sending your staff to such an event, hosting a clinic, or even sending setters to contract for competitions (or hosting competitions and bringing in external setters) can help increase the level which you are able to produce quality routes in a timely and safe manner.

Since forerunning of routes is such a fundamental part of the setting process, it would follow that the setters should be open to constructive feedback. Managers might consider regular meetings with staff to establish this practice as a way to review their

performance and suggest ways to better their setting. The feedback surrounding setters' biases based upon body size or preferred climbing style can be approached from a standpoint that allows management to address both strengths and weaknesses of each setter's style in a way that benefits the clients' as well as the facility's goals. An example is a setter who almost always sets moves that are far too reachy (Morpho, in the glossary above); giving this feedback in a constructive manner can help this employee to learn to prevent--rather than always need to fix--such issues in the future. If a setter is too proud or unable to take constructive feedback, it can hinder the process for the whole team and thus the entire operation on a greater scale.

Employee retention plays into the ability to accept critical feedback as well--if a setter feels attacked rather than improved by feedback it might lead to the setting team being short-staffed. Maintaining a cohesive and supportive staff leads to a more effective organization. Customer feedback is another essential metric by which an organization or facility can receive input from their users. Ways to receive customer feedback include, but are not limited to, having suggestion boxes, interest meetings, and other dialogue facilitation tools will aid in creating a community rather than a unidirectional flow of information from the gym to the users.

**Hypothetical Flow of a Setting Day**

1. Assess facility, resources, and equipment and make a plan for what parts of your wall will be stripped and reset. This ideally should happen before the staff arrive-- perhaps even in the day(s) leading up to the set.
2. Schedule staff: one of the most important aspects to scheduling staff is knowing how many staff you need. Figuring out what team-size works well for you (see section 1. Hiring New Employees for suggested team sizes) will be necessary before scheduling staff.
3. Meet with head setter and make a plan for how the set will run. Plan the pre-set meeting, go over schedule, and review any suggestions your clients/participants may have for you. Additionally, see if there are any risk management hazards that have presented themselves that will need to be mitigated. An example of this is: "Last time we reset the slab, the run and jump resulted in 4 incident reports and two sprained ankles. Let's not set a run and jump this round."
4. Pre-Set meeting/discussion: The goals and discussion with the team should include, but not necessarily be limited to, which sections of the wall are you stripping, if/when you will you clean the wall, how will you clean the holds, how many routes are you trying to set, what grade ranges are you trying to set, and any other special considerations that bring themselves to bare such as: while some people are setting, will anyone be running maintenance such as replacing stripped t-nut holes or performing other routine maintenance needed for a successful set? Is anyone new or inexperienced? Who will they be learning from or shadowing? Other suggested

goals are what time you aim to end, who all will be forerunning, and delegating the other needed tasks.

5. For stripping, the experience level of the team is less important than if they were setting since it is the removal of holds and routes rather than the creation. An advantage of having newer/less experienced staff be on the “strip and wash” team is that it gets them familiar with the safety systems, tools (such as impact drivers), and subtleties of a set (such as where to put set screws in a hold or volume.)
6. For cleaning, it is often the same team who strips. The cleaning of the wall is really different based on the facility’s standard operating procedures. From personal experience, that some universities will pressure wash their walls (yes, even the indoor ones), but scrubbing walls with brushes and soapy water is generally considered to be the standard among the few gyms who sanitize the walls themselves (Rabinowitz, E. & Frauman, E. 2015). While many walls may rarely get washed, due to the dirty nature of holds and walls, an occasional or routine wash could be very beneficial.

Cleaning of holds is generally done with a pressure-washer and some sort of detergent or soap such as the Soill GRIP WASH (Anderson, 2014. p.83-4). For more specific instructions, see the manufacturer guidelines. One thing to keep in mind is that some soaps such as Dawn Dish Detergent will leave the holds feeling slippery or covered in a film--this is less than ideal. Additionally, there is an industry-wide debate on whether setters should clean their holds with some sort of acid, such as muriatic acid, but this is beyond the scope of practice of most setters and could lead to serious risk management and even environmental issues if handled

improperly (Anderson, 2014. p.83.). Lastly, if someone were to bleed on a part of the wall, a hold, or another piece of equipment, sometimes more extreme cleaning measures can be taken such as strong bleach-solutions (1 to 10 bleach to water) or even discarding the contaminated item.

7. Setting: if the previous steps have been taken with care, the actual routesetting can be one of the more fun and creative parts of the whole process. When setting, keeping the guiding principles laid out in your pre-set meeting in mind will make it run smoothly. Knowing: who will set what grade; with what type or color holds; on which section of wall; which new staff member may be shadowing or helping with the setting is key. As the team leader, safety and big picture are likely to be one of your responsibilities. Making sure people are following your safety protocols, making sure the setters have the supplies, tools, and person-power to do their job well, and making sure they are staying on track/schedule are all important.
8. Forerunning and critiquing routes: This is an often under emphasized, yet highly important step in the setting process. Even the best setters can only set so well without actually trying the moves to make sure they are “on grade” (appropriate for intended difficulty) and fair to the majority of climbers. Before forerunning, setters should organize and move all of the material from beneath the climbing surface. By consolidating their tools, extra holds, ladders, etc. out from under the boulder problems, they reduce the risk of bodily injury and broken tools from landing or falling on them as the staff forerun the problems. Then they begin to climb the routes they have set. As an aside: according to our aforementioned survey, the

overwhelming majority of teams use the same core group of employees to both set and forerun.

The goals of forerunning include, but are not limited to, making sure all holds are roughly within commercial span, all routes seem on par with the intended grade, all routes are easily distinguishable from those surrounding it (eg. routes colored pink, red, orange, and another pink are not all right next to each other), routes are fun and safe, all holds are tight and lightly chalked/brushed, and that the routes are not easily “cheated.”

Lastly, it is important that the forerunners keep in mind that they have a bias: they know the intended “beta.” Therefore, they should try to approach the routes with an external mindset in order to see if people can break the sequence (make it easier by skipping holds or changing the manner in which they climb the route) that is unfair to other climbers.

9. Double check that all tape, tags, set screws, and footholds are in place: Before the final sweep/clean-up, during which any participants or client-climbers will be chomping at the bit to try your sweet new blocs, it is important to finalize the finishing touches on the wall.
10. Clean up/final sweep: This is fairly self-explanatory. Make sure that everything is cleaned up and put away, there are no bolts or screws left on the mats/floor. One key part of this is vacuuming the pads or flooring under the section of wall you were resetting. This not only makes it cleaner and less chalky, but also helps make sure no splinters, screws, bolts, or any other sharp or dangerous, small objects are still

hidden in plain sight. Only after everything has been double checked to be clean and safe can the wall be opened up for participants.

11. Re-evaluate and plan for next time: This is an important step. As the routes “break in” and people start climbing them, it is important to evaluate for spinners (maybe a set screw is needed), see if any styles of routes are getting broken (easier sequences than intended being found) especially often, receive feedback on what people do and don’t like, if any particular move has contributed to injury, etc. Lastly, begin using what you learn from this set to plan for the next one.

**Routine Maintenance**

Listed here is a series of routine maintenance that should be conducted by the routesetting team, rather than the gym staff as a whole. While some gyms may split duties differently, it is important to make it known what the standards and expectations are for each employee. Some articles of routine maintenance include, but are not limited to:

- Fixing spinners
- Replacing or tapping (rethreading) t-nut holes
- Driving or replacing exposed nails or screws
- Washing holds
- Taping stripped t-nut holes
- Sorting holds
- Cleaning behind the wall
- Vacuuming (sometimes)
- Replacing worn quickdraws, anchors, or ropes

Additionally, setters may be assigned other routine maintenance duties due to their safety practices, work at height, tool-use protocols, or other standards the gym employs. Such duties could be the changing of air filters, changing of light bulbs, cleaning hard-to-reach places, or even the building of volumes, installing new sections of wall, or modifying holds (drilling pilot holes for set screws, for example). For example, this practice will help to prevent safety issues that could arise from front desk employees working outside the scope of their job.

**Example Standards for Personal Protective Equipment (PPE) and Safety**

Here, suggested standards of PPE based on tools and situations are highlighted. The goal of this section is to provide four specific suggestions that can be implemented as-is or tailored to a specific gym's needs. Other safety protocols based on this rubric could be extrapolated for other situations or tools as well. The four PPE standards suggested here are for impact drivers, ladder usage, cleaning/time spent behind the wall, and working below routesetters who are setting or stripping above on a rope. These are examples of the standards that staff need to be know to check off for new tools or situations as listed above.

**1. Impact Drivers:**

- a. Due to the loud nature of impact drivers, we suggest that all staff using impact drivers wear some sort of ear protection.
- b. Due to the forces put on the materials being bolted or screwed and the resulting debris that can be churned up, eye protection is also suggested for staff using Impact Drivers.
- c. If using an impact driver to strip of set full-length routes on a rope--rather than boulder problems--the driver should be attached to the setter with some sort of leash to prevent it from becoming an unnecessary (and expensive) dropping hazard.

**2. Ladder Usage**

- a. Ladders should be used in order to reach higher portions of the wall than one can from the ground.
- b. Ladders should be used on an even, firm surface to prevent tippage.

This can be a firm pad, the ground, a wooden sheet laid on the pads, or even small wooden disks attached to the feet of the ladder (Anderson, 2014. p.103).

- c. All general/manufacturer's safety concerns with ladders should be followed: therefore, setters ought to refrain from standing on back side, on top, on two ladders at once, or one ladder and one foot on the wall.
  - d. Sometimes it may be suggested that another staff member hold the ladder when the setter is using it.
3. Cleaning or spending time behind the wall:
- a. Any time staff are going to be working behind the wall for an extended period of time, where there is minimal ventilation and an abundance of chalk and particulate build-up, it is suggested that they use some sort of respiratory protection (such as a dust mask, or even a respirator), eye protection (such as goggles) and possibly hearing protection if there is setting happening since the sound will fill the area.
4. Working on the ground as staff set or strip above while on a rope.
- a. Any time there is staff setting a full-length route and is stripping or setting on a rope (and thus higher than a ladder would reach), any person underneath them ought to wear a helmet.
  - b. Any tools used at such heights--such as impact drivers--should be attached to the setter with some sort of leash to prevent being an unnecessary falling hazard to those below.

- c. Any volumes or especially large holds should be attached to prevent being dropped. An example technique is to put a bolt hanger in a t-nut hole of the volume and use cord to attach it to the rope, setter, or wall to prevent it from being dropped.

## Conclusions

Lastly, I would like to summarize this project with something I have coined as the Golden Rules of Setting--a synthesis of advice I have received from mentors in the industry as well as through reading forum posts in the popular social network page Routesetters Anonymous. These rules (more like guidelines, as they say) are important underlying themes that help to synthesize the above questions, standards, and suggestions.

1. BE SAFETY CONSCIOUS
2. You are setting for the user base of your facility
3. You are trying to facilitate fun while keeping risks mitigated
4. You are trying to help users to progress--not stagnate or get injured
5. Try to make 75% of the users happy 75% percent of the time, but it can't always be the same 75% of users. People are diverse, your routes should be too.
6. Use the space wisely.
7. Don't set just for yourself, try to make things fair and fun for everyone.

I hope that this thesis project will not only spark a dialogue within the climbing wall industry, but also aid in identifying the needs and norms that which the managers should be attending and implementing. This project will continue to develop as long as the industry is evolving. It is hoped that through this work, managers will more safely and effectively be able help their routesetting staff to do their jobs. As this growing industry continues to develop and mature, it is hoped that the standards and best-practices do not stagnate. Only through continual assessment, planning, implementation, and reassessment can a business or industry truly stand the test of time. Lastly, as the research within the recreation

industry--specifically within climbing walls--continues to develop and grow, opportunities for new focuses of future research with grow exponentially as well.

### **Non-Exhaustive Glossary of Routesetting Terms and Concepts**

Through professional experience, it has been noted that routesetters tend to have a shared language slightly different from the general climbing community as a whole. Due to the fact that most people in the climbing gym industry generally know at least the average jargon associated with climbing, terms such as “side-pull,” “heel-hook,” or “dyno” will not be defined here; however, in the further reading section, there are two links to existing climbing term glossaries. Furthermore, within the professional realm of routesetting there are important concepts and terms to understand when it comes to the sets. If there is not a shared vernacular between the gym managers and the setting team, misunderstandings are bound to take place. All terms that were not defined by the author personally are cited to the page in *Fundamentals of Routesetting* by Louie Anderson (2014). Additionally, a URL shortening tool (<https://goo.gl>) has been used to provide examples or discussions of some of the following terms.

**American Style Setting.** big moves between relatively good (positive) holds, very physical, very dynamic. Moves are gymnastic and very upper-body focussed.

<https://goo.gl/aK4GPB> (Mad Rock Team, 2016.)

**Angle.** This is the degree to which the walls overhang. Having a standard name for each section of the wall--and knowing how to gauge angles--is key. If a manager were to say, “go reset the 60 degree” are the staff going to reset the wall that is almost vertical or almost horizontal? The standard is to measure how far off of vertical the wall is. Therefore the roof is steeper than the 60, which is steeper than the 45, which is steeper than the Moonboard--40 degrees, which is steeper than the vertical wall, which is steeper than the slab. <https://goo.gl/D2Dk2K> (Moon Climbing, p. 4. 2016)

**Commercial Span.** This is generally considered to be the distance between handholds on a given route, as well as the distance between the footholds and handholds. The common practice is that handholds should be, at the most, no further apart than from one hand, to the opposite elbow when the setter measures with their body. Since many setters (and climbers in general) come from a relatively homogenous population of averaged sized men, this helps to create fairness across the board for people who may *not* be the size of the average american male. As a side note, this is roughly the same distance as from one's foot outstretched to just under the chin. For setters of different sizes, this can be extrapolated a little to make up for, say, a short arm-span. In order to set for children specifically, elbow-to-elbow could be a quick adjustment to this reference. (Anderson, 2014. p. 43).

**Dual-tex.** This is an abbreviation for a type of hold that uses two textures (dual-textured) in order to force the manner in which climbers grab or use the hold.

<https://goo.gl/wK7ucz> (Mitka, 2017.)

**European style setting.** This style of setting dictates difficulty through body position, coordination, and ability for athletes to decode confusing hand and foot sequences (See Article linked in American Style definition).

**Forerunning.** Climbing the routes and troubleshooting in order to create the most straightforward and flowy routes at the grade you intend. Part of this process is seeing if the route can be cheated or "broken." The goal is to force sequences that are fair to the users.

**High/Low Percentage Movements.** This is, rather than difficulty, the likelihood a certain move can be performed consistently. An example of a low percentage move that is not connected to difficulty is a blind reach or jump around a corner to a very good/positive hand hold. The opposite of this is a high percentage, yet very difficult, move such as a small movement from a bad hold to an even worse one. <https://goo.gl/fh1sL7> (Dixon, 2011.)

**Impact Driver.** A type of drill commonly used by setters in order to speed up the process of hanging/adjusting holds. This is instead of a hand wrench. Regular drills do not produce enough torque to tighten holds enough (Truini, 2017; <https://goo.gl/MPvUmS> ).

**Jib.** Small foothold, can also be used as a Thumb Catch

**Martini.** A type of hold-bolt with a different shaped head to make up for the fact the hold doesn't have a metal washer on the inside. This is opposed to a "regular" (AKA "socket") bolt. <https://goo.gl/Gomt6G> (The Spot Routesetting Blog, 2012.)

**Monochromatic.** This is when instead of using tapes to delineate which holds comprise a route, the setters use the hold color to differentiate. This requires a larger hold-selection, more planning, and often more experience.

**Morpho.** Short for morphological. This is a term to refer to a stylistic aspect of a route that is unfair if the climber has certain morphological traits such as a long reach. Examples of "Morpho" moves include huge reaches where feet must be kept on the wall or a large span between opposing hand holds that only tall people can reach.

<https://goo.gl/pLx1QT> (Three Rock Books.)

**Set Screw.** This is a single screw (or more) to keep Spinners from spinning. These are used to reduce flex on larger features as well. It is opposed to Screw On style holds since the primary attachment is the Socket or Martini Bolt and the screw is to reduce spinning. (See link under Martini Definition)

**Screw-On.** Attaching small holds to other holds, volumes, or the wall via wood-screws. These screws can go through the hold, or through bolt hole. <https://goo.gl/9u3mNU> (Section 5, Atomik Climbing Holds.)

**Spinner.** This is a hold that spins due to being too loose. Sometimes this is from the t-nut (metal-backing to the hole in which hold-bolts are applied) breaking free from the paneling. It is fixed with a set screw.

**T-Nut.** The metal backing into which bolts are screwed. These can be hammered, screwed, or built into the back of the wall. <https://goo.gl/g6bfXA> (Escape Climbing Holds)

**Tags.** This pertains to all of the markers on the start and end of a given route. Laminated start tags are especially important since they tell the climber how hard the route is, what features may be used, and who set the route.

**Tap.** A tool used for rethreading T-Nut holes that have been cross-threaded or stripped. (Anderson, 2014. p.97)

**Thumb-catch.** Part of a hold that allows a thumb to oppose the other fingers. This can be built-in, screwed on, or even a part of a volume or the wall.

While not an exhaustive list, this should be a good start to learning some of the more vague or setter-specific terms in the climbing wall industry. The key take-away from this section is that a common vernacular of terms exists, and the use of this vernacular will

enhance the communication and understanding between the management and setters.

Misunderstandings can be tremendously inconvenient or even dangerous in the certain situations.

## Supplemental Resources

[https://en.wikipedia.org/wiki/Glossary\\_of\\_climbing\\_terms](https://en.wikipedia.org/wiki/Glossary_of_climbing_terms)

<http://threerockbooks.com/index.php/bouldering-terms/>

<https://www.routesettingassociation.org>

<http://www.usaclimbing.org/Officials/Routesetters.htm>

<http://eveningsends.com/open-your-first-climbing-gym-with-these-7-weird-business-plan-hacks/>

<http://www.climbingbusinessjournal.com/gyms-and-trends-of-2017/>

<http://www.climbingbusinessjournal.com/marketing-your-climbing-gym/>

<http://awesomeroutesetting.com>

<http://www.climbingbusinessjournal.com/9-routesetting-essentials/>

<https://headrushtech.com/blogs/how-to-set-climbing-routes/>

<https://www.climbing.com/skills/home-wall-primer-route-setting/>

<https://kitkaclimbing.com/blog/tips-for-route-setting-avoid-common-mistakes/>

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